NOVEMBER 1951

Universities Quarterly

VOLUME 6 NUMBER 1

PRINCIPAL CONTENTS

SELECTION FOR UNIVERSITIES

Articles J. F. Wolfenden, Roy Pascal, J. H. Nicholson, R. R. Dale.

INSTITUTES OF EDUCATION, PART II

by R. A. C. Oliver

INDUSTRY AND SCIENCE BY N. G. McCulloch

REVIEWS BY Lord Lindsay of Birker, Eric James, Harman Grisewood, A. E. Teale

FIVE SHILLINGS

Editorial Board

Lord Simon of Wythenshawe, LL.D., *Chairman.* Chairman of the Council of the University of Manchester.

Cambridge:	Sir Lawrence Bragg, F.R.S., Director of the Cavendish Laboratory.
London:	R. H. Tawney, F.B.A., Professor of Economic History, University of London.
Modern Universities:	Bonamy Dobrée, Professor of English, University of Leeds.
	Sir Raymond Priestley, Vice-Chancellor, University of Birmingham.
	Sir John Stopford, F.R.S., Vice-Chancellor, University of Manchester.
	R. A. C. Oliver, Professor of Education, University of Manchester.
Oxford:	Sir Maurice Bowra, F.B.A., Warden of Wadham College, Oxford.
	Sir David Lindsay Keir, LL.D., Master of Balliol College, Oxford.
Scotland:	Sir Godfrey Thomson, Professor of Education, University of Edinburgh.
Wales:	P. Mansell Jones, Professor of French and Romance Philology, University of Wales.
Northern Ireland:	Eric Ashby, President of The Queen's University, Belfast.

Editor

C. R. Morris, Vice-Chancellor, University of Leeds.

Assistant Editor:

Margaret Freeman.

EDITORIAL COMMUNICATIONS:

Correspondence, which will be welcomed, should be addressed to the Editor at The University, Leeds 2.

MSS. and books for review should be addressed to the Assistant Editor UNIVERSITIES QUARTERLY, 8, Heath Mansions, London, N.W.3.

SUBSCRIPTION, ADVERTISEMENT, PUBLISHING, &c.:

PRICE Five Shillings per issue. POSTAL SUBSCRIPTION to any address or through any newsagent One Pound Yearly.

Correspondence relating to subscriptions, advertisements, etc., should be addressed to the Publisher.

TURNSTILE PRESS LIMITED

10 Great Turnstile, London, W.C.1.

HOLBORN 8471

UNIVERSITIES QUARTERLY

VOL. 6. No. 1. NOVEMBER, 1951

Contents

Page

NOTES

Selection for admission. The question of distribution. American universities and industry. Mass attack. The significance of the mass attack. Recurrent long leave. A new quarterly 11

ARTICLES

SELECTION FOR UNIVERSITIES :

I. *By* J. F. WOLFENDEN 16
II. *By* ROY PASCAL 22
III. *By* J. H. NICHOLSON 27
IV. *By* R. R. DALE 31

INDUSTRY AND SCIENCE *by* N. G. MCCULLOCH 40

INSTITUTES OF EDUCATION, PART II, *by* R. A. C. OLIVER 48

POSTGRADUATE STUDY IN THE SOCIAL SCIENCES *by* B. S. KEIRSTEAD .. 54

THE UNIVERSITY OF GLASGOW, 1451–1951, *by* J. D. MACKIE 61

SOCIAL SURVEY *by* D. CARADOG JONES 69

UNIVERSITY LIBRARIES IN THE COLONIES, PART II, *by* RICHARD OFFOR .. 75

REVIEWS

The English Universities and Adult Education reviewed by Lord Lindsay of Birker. The Idea and Practice of General Education reviewed by Eric James. Radio, Television and Society reviewed by Harman Grisewood. The Place of Reason in Ethics reviewed by A. E. Teale 82

THE LIFE OF A UNIVERSITY

Basil Cottle and J. W. Sherborne

This is the first full account of the University of Bristol ever to be published. The authors trace the University's growth from the modest origins of the Medical School in 1833, and the University College in 1876. They describe all the many and varied activities of the great modern University of to-day. The book is illustrated with fifty full-page illustrations, from specially commissioned photographs, giving a pictorial record of the University of Bristol as it is in 1951.

Paper Covers, 6s. net. Cloth Gilt, 10s. 6d. net.

Published for the University by

J. W. ARROWSMITH LTD.

Quay Street and Small Street, Bristol 1

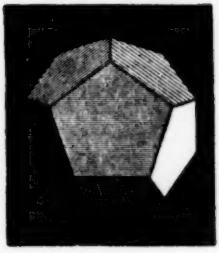
We are pleased to announce the addition of these titles to our well-known series.

UNIVERSITY MATHEMATICAL TEXTS

Partial Differentiation

by R. P. GILLESPIE

Cr. 8vo. 116 pp. Now Ready 6/- net.



Classical Mechanics

by D. E. RUTHERFORD

Cr. 8vo. 206 pp. Now Ready 10/6 net.

In Preparation

Volume and Integral

by W. W. ROGOSINSKI

A General and Scientific Catalogue is available on request.

OLIVER & BOYD TWEEDDALE COURT EDINBURGH 1

FREYA STARK'S

second volume of Autobiography

Beyond Euphrates

Book Society Recommendation

Of the first Volume (*Traveller's Prelude*) "The Times" said: "One of the most astonishing performances in autobiography in recent years." This volume deals with her early travels.

"Her best book so far. Its prime lesson is that most of the excitements of life are wrought by enterprise and that the man or woman who is ready to take no risks need expect no fun."

The Economist.

Illustrations and a map. 25s. net

VISCOUNTESS MILNER'S memoirs

My Picture Gallery 1886-1901

This important volume ranges from Hatfield with Lord Salisbury, Paris with Clemenceau and South Africa with Cecil Rhodes and is of unique value. Illustrated. 20s. net

SIR ARTHUR LOTHIAN, K.C.I.E.

Kingdoms of Yesterday

An account of a distinguished career in the Indian Civil Service from 1910, giving a frank and valuable picture of the Indian States, both in regard to their past way of life and their present day problems. Illustrated 21s. net

JOHN MURRAY

(7823)

Hutchinson's

AN INTRODUCTION TO THE ENGLISH NOVEL

VOLUME I TO GEORGE ELIOT.

Arnold Kettle, M.A., Ph.D.

Lecturer in English Literature at the University of Leeds

Shows how and why the novel developed in England in the eighteenth century, with notes on the function and background of prose fiction, its growth and recent experiments.

THE BRITISH BANKING MECHANISM

W. Manning Dacey

Economic Adviser, Lloyds Bank

An explanation of how the banking structure functions as part of our monetary system.

The main object of the book is to enable the student or the intelligent layman to obtain a real understanding of the financial system as it operates under present-day conditions.

EXPLORATION AND DISCOVERY

H. J. Wood, B.Sc., Ph.D.

Lecturer in Geography in the University of London

Aims not at encyclopaedic description but rather to interest the reader in major episodes in contrasted regions presenting contrasted problems. 12 *maps.*

Each volume 8*s.* 6*d. net.*

University Library

A 2

THE WORLD'S GREATEST BOOKSHOP

FOYLES

* FOR BOOKS *

New, secondhand & rare Books on every subject

We BUY Books • Coins • Stamps

You can take out postal subscriptions for British, American & Continental magazines, through Foyles.

119-125 CHARING CROSS ROAD, LONDON, W.C.2

Gerrard 5660 (16 lines) ★ *Open 9-6 (inc. Sats.)*

HENRI FRANKFORT

The Birth of Civilisation in the Near East

"This short, exhilarating book condenses and clarifies ideas which have already been expressed in . . . Dr. Frankfort's other well-known works on the Near East Civilisations."—*New Statesman.*

Demy 8vo *Illustrated* 16*s.*

EMIL KORNER

The Law of Freedom as the Remedy for War and Poverty

All economists must study and appraise Professor Korner's theory, if only because of his revolutionary discovery of the "stable standard of value."

Demy 8vo 2 *volumes* 42*s. per set.*

WILLIAMS AND NORGATE

36 Gt. Russell Street, W.C.1.

Available Now

FRANCIS BACON

Philosopher of Industrial Science

BENJAMIN FARRINGTON

This book is an absorbing study of the greatest English thinker of the seventeenth century, the real content of whose ideas has been so often misunderstood. It is written in Professor Farrington's easy and charming style. Students of Bacon will find that it makes a vital contribution to Baconian studies.

Professor Farrington shows that the central theme of Bacon's life was his plan for transforming the conditions of human existence by the application of science to production, and traces the basis of this idea in contemporary society as well as in the individual home background of Francis Bacon himself.

208 pp. 12*s.* 6*d.*

★

Ready Shortly

THEORIES OF SURPLUS VALUE

KARL MARX

Selected and translated by G. BONNER and EMILE BURNS, with an Introduction by EMILE BURNS.

Theories of Surplus Value is taken from manuscripts which Marx left for the last volume of *Capital*, and which were subsequently edited and published by Karl Kautsky. These important and illuminating writings consisting of studies of economists who preceded Marx, have never before been translated into English. The sections now selected for translation are those dealing with the Physiocrats, Adam Smith and David Ricardo.

420 pp. 25*s.*

LAWRENCE & WISHART
81 CHANCERY LANE
LONDON, W.C.2

JUST OUT

THE EVOLUTION OF LAW AND ORDER

A. S. Diamond

This is a social and economic history of mankind from the beginning. What were the ideas of the common man, at successive stages in human history, upon the subject of the relations between the members of the family or of the State? What were his ideas of right conduct between man and man, or man and God? What determined the progress and the changes that took place in those ideas? Did they occur independently in different parts of the World, or were they occasioned by diffusion from one or more sources? These questions are illustrated especially by the story of the development of legal ideas in all parts of the world. In this book Dr. Diamond expands and carries further, in simple terms and with an absence of technicalities, the theme contained in his *Primitive Law*.

Demy 8vo, 350 pp.

21s. net

C. A. WATTS & CO. LTD.
5 & 6 JOHNSON'S CT., FLEET ST.,
LONDON, E.C.4

Rex Warner

his new translation

THE HELEN OF EURIPIDES

uniform with

THE MEDEA OF EURIPIDES

THE PROMETHEUS BOUND OF AESCHYLUS

etc.

7s. 6d.

THE BODLEY HEAD

The Trojan Women of Euripides

A new dramatic translation by F. KINCHIN SMITH

The second of the Greek dramas to be translated by Mr. Kinchin Smith whose ANTIGONE was widely praised last year. With notes. Cr. 8vo. Paper 3s. 6d. net. Cloth 5s. net.

Hamlet

This, the "Bad Quarto" of 1603, is the seventh in the splendidly produced series of Shakespeare quartos reproduced in collotype facsimile. Introduction by W. W. Greg. F'cap. Quarto. Buckram. 25s. net.

Animal Evolution

G. S. CARTER

"Countryside", the journal of the British Empire Naturalists Association writes: "... anyone interested in the causes that lie behind the progress of Life through the ages will find in it a rich source of enlightenment." Demy 8vo. Illustrated. 30s. net.

SIDGWICK & JACKSON

OVER MY SHOULDER *the autobiography of* Major-General Sir Ernest SWINTON, K.B.E., C.B., D.S.O. Fellow of All Souls, Oxford. Demy 8vo. 18s. net.

SO LONG TO LEARN *reflections on experience* by Charles DOUIE, formerly of the Ministry of Education and Secretary of University College, London. Cr. 8vo. 7s. 6d. net.

THE STRUGGLE FOR TRANSCAUCASIA *by* Firuz Kazemzadeh, Ph.D.

The history of this important area from the fall of the Russian monarchy until 1921. Well documented, indexed, agreeable reading. Introduced by Michael Karpovich, Professor of History, Harvard University. An original and scholarly work. Demy 8vo. 384 pp. 25s. net.

2 ALFRED STREET **GEORGE RONALD** OXFORD

HEFFER'S

The Bookshop known the world over.
New and secondhand, English, American, European and Oriental Books. Learned, rare and standard works bought; lists invited.

W. HEFFER & SONS LTD
Petty Cury, Cambridge

An entirely new reference book

The Libraries of Greater London

A GUIDE
compiled by
L. M. HARROD, F.L.A.

A guide to the resources of about 500 university, college, research, learned society, industrial, governmental, public and other libraries with particulars of stock, special collections, hours of opening, etc. Each entry is compiled by the appropriate officer of the library concerned and its accuracy may therefore be relied upon.

252 pages.

25s. *net*
G. BELL & SONS, LTD.

EDUCATION AND THE DEMOCRATIC IDEAL

A. G. HUGHES, B.SC., PH.D., M.ED.
Chief Inspector, Education Officer's Department, London County Council

A collection of nine essays about problems which are exercising the minds of thinking people among teachers, administrators and the general public. The author describes the democratic ideal as the liberation of the creative spirit in every individual. He shows how remarkably this spirit is manifested by little children when they are living in free, happy communities, and in contrast how often it is quenched in the conditions of the world today. He argues that the urgent problem of education is how to improve human relations in every group in which people live and work and play—in families, schools, factories and offices, and in society at large.

Ready in December, 10*s.* 6*d. net*

LONGMANS

PITMAN

Three outstanding books

★

Glaucon

An Enquiry into the Aims of Education. By M. V. C. Jeffreys, M.A., Professor and Director of the Institute of Education, Birmingham University. 12s. 6d. net.

"Professor Jeffreys has, at long last, produced the prolegomena to the study of education for which we have waited long. . . . he has compressed more wisdom into his 160 pages than the majority of his predecessors have achieved in the total bibliography of the subject . . . no one can read his book without intellectual stimulus." TIMES EDUCATIONAL SUPPLEMENT.

A Survey of European Civilization

By Wallace K. Ferguson and Geoffrey Bruun. Edited by William Langer. A magnificent book which succeeds in presenting adequately in a single volume the evolution of European civilization from pre-historic times to the present day. It is not merely a summary manual of events, but a readable and very comprehensive account of the social, cultural, economic, and technological developments. Nearly 1,000 pages, profusely illustrated. 45s. net.

English Literature

A Critical Survey. By T. G. Williams, F.R.Hist.S. Former Principal of the City Literary Institute. 16s. net.

"For the well-read he provides a pleasant ramble through familiar pleasances; for the inquiring student a clear, though not complacent guide to developments in various fields; and for the harassed teacher a refreshing summary of essential material . . . for minds steadily ripening or ripened in literary experience." TIMES EDUCATIONAL SUPPLEMENT.

Sir Isaac Pitman & Sons, Ltd.
Parker St., Kingsway, London, W.C.2

THE POLITICAL QUARTERLY

edited by Leonard Woolf and Prof. W. A. Robson

is read in universities throughout the world. Here students of public affairs will find intelligent comment on the Cold War and the Welfare State. A special issue in January, 1952, will be devoted to a study of the Soviet Union, its economy and social services, its legal system and foreign policy.

Annual subscription £1 ($3.50)

THE POLITICAL QUARTERLY
10 Gt. Turnstile, London, W.C.1

ENGLISH AT A GLANCE

A digest for Students Writers and Speakers by

Cedric Astle
B.A.
Headmaster of Rykneld School, Derby

"Not only is this a book which should be in the hands of all English schoolboys and girls, and in the possession of students at our universities, but it is also what should be a household possession in the home of all educated people . . ."
Prof. H. Maurice Relton, D.D.

9s. 6d. net

SKEFFINGTON
11 Stratford Place, London, N.1

A COMPLETE BOOK SERVICE

THE LIBRARY
A subscription of £3 7s. 6d. *a year provides you with the latest publications.*

THE BOOKSHOP
A comprehensive stock of new and standard books is always available.

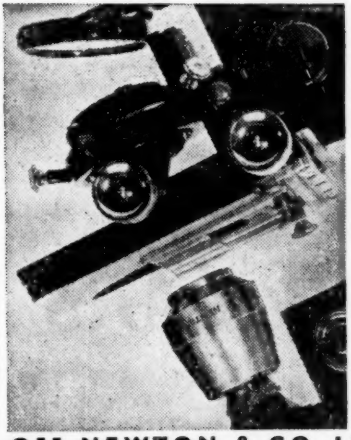
THE ANTIQUARIAN DEPARTMENT
Contains a wide range of limited editions and other collectors' items.

THE FINE BINDINGS DEPARTMENT
Your own books bound in leather to suit your particular requirements.

THE TIMES BOOKSHOP & LIBRARY

WIGMORE STREET W.1 WELbeck 3781

THE Newton

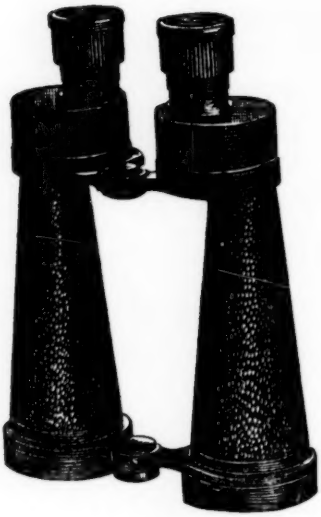


LONG WORKING DISTANCE ATTACHMENT

. . . provides a working distance of 12.8 mm. between object glass and specimen when fitted to a standard microscope in conjunction with a conventional 4 or 8 mm. objective.

A further important feature is that the use of this attachment eliminates image reversal and thus further facilitates examination and manipulation of specimens.

Q55 NEWTON & CO. LTD., 72, Wigmore Street, London, W.1
Associated with Metropolitan-Vickers Electrical Co., Ltd. *Member of the A.E.I. group of companies*



In various types
for :

Bird-watching
Nature Study
Racing
Yachting, etc.

Informative Booklet
C50/UQ free
on request.

Barr & Stroud
BINOCULARS

ANNIESLAND, GLASGOW, W3. London Office : 15 Victoria St., S.W.1

UNIVERSITIES QUARTERLY

NOTES

Selection for admission

There is still much interest in this topic in the universities, and four writers of various experience have contributed to a discussion of it in this issue. The first question seems to be: is there still an overall problem of selection? The recent Report of the University Grants Committee tells us that in the session 1949–50 there were 24,331 new entrants to the universities and university colleges. If there are about 24,000 places again available for the session 1951–52, will there be greatly more than 24,000 qualified candidates seeking to fill them?

The truth is that we do not know. Each university institution knows how many applications it has itself; but there are very many candidates applying to more than one institution—it seems a common practice to apply to four or five—and nobody knows how great or how small is the total number of applications to all institutions together.

It may well be that overall there is not much of a problem. Selection may still be a difficult matter for some institutions, or for some departments; there may indeed be too much pressure upon the total number of places in the country in some fields of study, as for instance in physics, chemistry and medicine. But by and large the more important questions today seem to be: are the right boys and girls being guided—by the schools, by parents, or by somebody—to work for and seek entrance to a university? And how many such boys and girls are there coming out of the schools every year?

The question of distribution

It may also be asked: are the would-be entrants seeking to go to the right institutions, and to the right fields of study? From the point of view of the interest of the individual, is the candidate for admission getting first-class advice, and is he getting it early enough to take practical advantage of it? And on the point of the community's need to have the professions and the main services

adequately manned, are there, for instance, enough students of high ability going into the applied sciences and into medicine?

These again are questions to which on the evidence available it is not easy to give a confident reply; but enquiry suggests that a number of people who are in a position to have a valuable opinion would without much hesitation answer both these questions in the negative. It seems important to know the truth, if the truth can be discovered; and also to give very serious consideration to whether anything can be done to improve the distribution of brains. The instances given—of the applied sciences and medicine—are only instances. The important ramifications of the whole problem of distribution are very wide indeed. Yet probably very much could be done if well-informed advice and guidance were available, and available at the right time, to the individual student.

American universities and industry

In the spring of this year a combined team representing universities, technical colleges and industry visited the United States to make some enquiries about the relations between universities and industries there. Its Report makes clear that the members of the team had no great hope, and indeed no intention, of establishing detailed conclusions, or even of painting a detailed picture of the American scene. They sought impressions, and perhaps inspiration; and some sharp impressions seem to have emerged in their minds.

They greatly admired what they saw of the great university departments of applied science and technology, including those of the Massachusetts Institute of Technology—they did not go to California. They clearly regarded M.I.T., and no doubt would have regarded Cal. Tech. had they visited it, as in essence one more university, especially strong on the post-graduate side and especially favoured and supported by industrialists. They found many similar developments to admire in other universities, including the world-famous private and state universities of long standing. But they do not seem to have judged that the United States has any notable superiority over Great Britain in the training of the post-graduate—that is, the very highly qualified engineer or technologist who spends six years or more on his university course and earns, not merely a B.A. or B.Sc., but some really advanced degree, such as a Ph.D.

Engineers and technologists with a higher degree are in great demand in the United States, and the output of them is increasing,

as in this country. But perhaps not quite as many of them are produced there as here, and their training does not greatly differ from that which is given in this country. The general verdict seems to be that in this field the two countries have each one or two things they could learn from one another.

Mass attack

The most striking impression they seem to have gained was that of the mass attack, if it may be so put, which is being made on bringing science and well-trained intellectual power and resource on to the shop floor. Extremely large numbers of young men are being turned out by the universities and colleges, and absorbed by industry, who have done a full four-year course up to an American first degree. The standard of attainment in this course does not, on a comparative basis, impress British visitors. The American students have had a much less severe academic grounding at school than is provided by our grammar schools, and the generally accepted view seems to be that they are at the very least one year behind the British B.Sc. when they finish their course. This difference in attainment is perhaps more than it may sound at first blush, because a long course is largely cumulative in effect and the last year is a most important one.

It must be recognized that the American course for these young engineers is not comparable with the British university course. But three very striking considerations emerge: the output of these four-year trained college engineers is immense by British standards, even when due discount is allowed for the relative sizes of populations; they have not got as far in their studies as our graduates but they have got very notably farther than our young men can normally get who do not go to a university or comparable institution; they have spent four most educable years—from eighteen to twenty-two—receiving an education of university type at a college or university which has a full corporate life of its own and is often residential.

The British team was clearly much impressed by the impact made on industry by the absorption of this immense number of professionally trained young engineers. It is not clear whether in the first place industry asked for them in these large numbers, or whether, because so high a proportion of the younger generation go to college, industry has accepted them because they were there and it could not well

do otherwise. But it seems certain that industrialists now welcome them with both hands. Clearly in such large numbers they must be everywhere; they must penetrate into every branch of operation and not be confined to research and design. They must at the very least bring some understanding of science and some consciousness of its possibilities into almost every corner of industrial activity. They are generally credited with bringing in with them more than mere technical skills. Their college education is said to be effective enough, and broad enough, to make them capable of producing fresh ideas on the job and of creating a whole attitude to factory life.

The significance of the mass attack

This mass attack may be a key matter. Mr. McCulloch in another article in this issue has spoken of three industrial revolutions following one another, or three revolutions in basic types of skill—the British, the German, and now the American. Everything depends on invention, and the incidence of inventiveness can determine the fate of nations. The time is past when in general inventions came from the craftsman, or from the business man. Today they depend on scientific training, and may require the team approach. Yet so many inventions which really count are necessarily the work of men who know at first hand the actual job to be done on the shop floor. The placing in large numbers of men with some awareness of science near the job is very likely to give high returns. So at least most Americans seem to think.

But there is another point. In the educational pyramid a broad basis is apt to favour high quality at the top. There can be little doubt that in the United States a very good proportion of the able men go into the applied sciences and technologies. This result is probably favoured by the fact that so very many go in at the bottom. Many of those who discover that they are very good at the work would probably never have found this out if they had not gone to college. Being at college anyway, because all their friends are there, they uncover to themselves their own power and the satisfaction of intellectual work. The late development factor, to which college education gives its chance, may be especially important in these fields of study and training where in addition to memory and theoretical power an admixture of practical intelligence and adventurous *élan* also is required.

Recurrent long leave

The International Association of University Professors and Lecturers has produced a most interesting report on the question of "Sabbatical Leave" (*Communication*, February, 1951). There appears to be a general desire in all the universities that approximately every seventh year should be available for leave; but everywhere there are difficulties, largely economic, in the way of making it a general practice. How is the teaching normally done by the absent professor or lecturer to be provided for? Who is to meet the cost of the travel that may be necessary for the most profitable use of long leave? In many countries ingenious ways of meeting these difficulties have been discovered and they are plainly set out in this report which deserves wide study in the universities. One difficulty seems not to be touched upon in the report. It is comparatively easy to arrange long leave for a teacher in a large department where his teaching can be shared out among a number of colleagues in such a way that the addition to their normal teaching programme is slight. But this is scarcely possible in a small department.

A new quarterly

As the social sciences feel their way forward there are bound to be controversies of some liveliness at those points where they touch philosophical or religious issues. In the field of anthropology, for example, it is possible to come across students and teachers who argue with some vehemence for a thoroughgoing relativism in morals. The practice of the social sciences is plainly coming to be of such importance in our society that it is highly desirable such issues should be discussed as searchingly as possible. We welcome, therefore, a quarterly, *The New Outlook*, which will discuss the social sciences from a Christian standpoint. A feature of *The New Outlook* will be contributions from scholars abroad. In the first issue there is an admirable article "What is new about Sociology?" by Dr. Rosenstock-Heussy, and contributions by M. Gabriel Marcel, Professor Mehl of Strasbourg, Professor Jacques Folliet of Lyons, and others, are promised for future issues.

SELECTION FOR UNIVERSITIES

By J. F. Wolfenden

Vice-Chancellor of the University of Reading

I.

One of the topics to be discussed at the Home Universities' Conference in December is " Selection for Universities ". Nobody can doubt the importance of the subject; and the discussion will be the more fruitful the more firmly the fundamental issues can be disentangled from other questions interesting in themselves but irrelevant to the real topic.

The simple fact, depressingly familiar to Deans of Faculties, Heads of Departments and Registrars, is that at the present time each university receives far more applications than it has vacancies. But behind that simple (though careful) statement lie many complications.

The pressure of numbers

The first question is whether or not the recent and present pressure on university places will continue. There seems to be no serious reason to expect that it will not. It is true that the temporary increase caused by ex-service candidates is as good as ended. But the part which the universities have undertaken to play in carrying out the recommendations of various official reports persists; and the general policy behind those recommendations will encourage a permanent flow at least as great in volume as the temporary inrush of the years immediately after the end of the war. It is probable that the over-all expansion in university numbers has reached its limit—certainly there are many who hope so—but it is unlikely that there will be much contraction.

Secondly, there is the tiresome problem of multiple applications. It is impossible to discover, at present, how many individual persons there are applying for university places each year. The number of applications can be discovered by a simple addition sum, but the number of applicants is perhaps one-quarter of the total number of applications. A great deal of valuable time, both in the universities and in the schools, is spent in dealing with applications to four or five universities in respect of one young man or woman. Strong objections have been expressed to the notion of a central registry, and fears of " direction " are hard to overcome. There are difficulties, too, about agreeing on a uniform date for issuing

offers of places. But the disadvantages of the present procedure are so many and so great that its wastefulness in time and effort cannot be tolerated indefinitely.

The important issue

However that may be, each university is faced with its own problem, and this is the third and most intimate difficulty. Take the comparatively simple case of a small university with only three Faculties, of Letters, of Science and of Agriculture, all of approximately equal size. The university's total number of applications, for admission to read for a first degree, for October, 1951, was 1,449. But that figure tells us approximately nothing. The applications, for the respective Faculties were for Letters 559, for Science 423, and for Agriculture 467. The predictable vacancies were for Letters 98, for Science 92, and for Agriculture 95. We are getting nearer to the real point. But it happens that for their first year those who aspire to a degree in Agriculture work in the Faculty of Science; so the number of them who can be admitted depends not only on vacancies in their own Faculty but on the number of first-year vacancies in the Faculty of Science. This in turn depends on the number of Science applicants who have or have not obtained exemption from the Intermediate Examination in Science—and in a large number of cases this cannot be known until after the publication of the results of the G.C.E. examination. Add the further complications that for one reason or another there may be more room in one Department of the Faculty of Science than in another, that the casualty-rate on the way to a first degree may vary not only between Faculties but between Departments of the same Faculty, that the persons charged with the duty of selection in different Departments may have different criteria and procedures, and that vacancies in halls of residence, for men and for women, must be related to vacancies in teaching departments, and it becomes clear how very far from clear the picture is. And this is in a small university with a simple Faculty arrangement where complexities are at the minimum.

But behind and beyond all this is the really important issue. The purely numerical and procedural difficulties are bad enough, but it is on the qualitative level that the most obstinate problems arise. This is the real problem of selection, because from among all these applicants, each of whom possesses the minimum qualifications for

admission, some must be taken and others left. Arguments about matriculation requirements, " O and A and A and O ", are irrelevant to the university's troubles, because except as a low preliminary hurdle the minimum matriculation requirements give no help in solving the fundamental qualitative problem.

The present procedure

The responsible university officials make their first attack on this list of applications as soon as the autumn term is safely started. No doubt many parents and schools wish that decisions could be reached earlier, and that places could be " booked " two or three years ahead. But until each year comes there can be no certainty that the candidates will be qualified for admission; nor can the incidence of vacancies be predicted with the accuracy necessary if firm promises are to be made. A further responsibility has been put on the universities by the proposal that the award of LEA scholarships and grants should be linked to a candidate's acceptance by a university; for this virtually makes universities responsible for the award of public money on an annually competitive basis, and brings home even more acutely the qualitative nature of the university's decision on each application.

The first review of applications results in a grading into three categories, on the evidence of academic attainment and of school reports. There are those whom the Dean and the Head of Department would actively wish to admit, those whom they would be prepared to take if there should turn out to be room for them, and those whom nobody wants at all. In real life the first of these categories normally contains just about the right number to fill the available places, though it is not primarily on the basis of the number of vacancies likely to be available that the categorization is made. What, then, is the basis ?

The first criterion must be academic performance and promise. A university is primarily an institution for higher education (one of those blindingly obvious truths which are often overlooked) and therefore the primary obligation on the selectors is to pick those who seem likely to make the fullest use of the opportunities which the university affords. The evidence on which this selection has to be made is not very satisfactory. The G.C.E. result may not be fully informative; and although the reports of headmasters and headmistresses are becoming much more valuable and more valued

as mutual confidence grows there is still a great deal of information that the selectors inevitably lack. Some schools do in fact teach their sixth forms better than others; some are more familiar than others with the requirements of universities; some headmasters and headmistresses happen to have closer links than others with a particular university. Each of these facts may have the result of leading the selectors to choose one candidate rather than another, try as they may to make unbiassed decisions on the evidence available.

Granted that the primary qualification must be academic, is there any more to it than that? Or are we content that when the few casual vacancies come to be filled we should take the next and then the next off the "academic" waiting-list? Are we quite convinced that "those who seem likely to make the fullest use of the opportunities which the university affords" are exactly the same persons as those who have the best G.C.E. results, supported by reports from their schools?

A question of policy

There is a growing uneasiness and uncertainty about the answers to these questions. The old-established independence of the Oxford and Cambridge Colleges in this matter has its lessons for the rest of us. In the bad old days a college might deliberately accept young men because they were the sons of old members, or because they had rowed for their public schools at Henley, or because the senior tutor believed in having a few good pass-men in the college. There came a time when the propriety of this kind of thing was called in question. The academic conscience of the young dons revolted. In consequence many colleges developed the habit of selecting more and more of their commoners on their performance in the college open scholarship examination, that is, on specifically academic grounds; and loud were the protests of old members whose sons were found academically wanting. It is interesting that several colleges are repenting of this policy—not because of the old members but because they have found that academically a scholar *manqué* is not necessarily any better than a "good commoner", whereas in those other important matters which make him a good member of a college he is emphatically worse. To get a low second or an undistinguished third is not good enough if a man does nothing else; if he is at the same time making "the fullest use of the

opportunities which the university affords" in other ways it may not be at all discreditable. The leaders of national life in the next generation, in government, industry, agriculture, administration, may not (to put it mildly), be those who were most successful in the G.C.E. at sixteen-plus. Nobody in his senses would deny that the universities are responsible for maintaining the highest possible standard of scholarship, research and intellectual enquiry; if they do not tend that lamp nobody will. But is that the whole of their responsibility? Is that the whole of their contribution to the nation and to the world of nations? There will always be a few young men and women for whom the academic life, in one form or other, is all. But it is hard to believe that there are 24,000 of these a year. And it is hard to believe that the full and varied life of students' unions at the present time is designed simply to foster the strictly academic qualities of their members. Implicitly at any rate we recognize that we have influences and duties beyond the lecture-room and the examination hall; and although we may be too modest to say so very often we really believe that it is part of our task, besides nourishing the academic minority, to provide a background for that growth in maturity, responsibility and leadership which for the less academic will make their own lives fuller and happier and will enrich the community at large. If we believe this, if we have a conception of our function in the national life which goes beyond the strictly academic, how do we apply this notion to our procedures of selection? In the vast majority of cases the answer simply is that we don't.

To do so would increase the procedural difficulties. But at least Deans and Registrars would know what it was they were trying to do. It will be objected that to select on any but on "academic" basis is to run the risk of admitting "sub-standard" entrants. But the present casualty-rate suggests that not all the persons admitted on present procedure are of a standard which justifies the university's giving them a degree; and universities can surely be relied on to safeguard themselves against admitting any candidate whom they wish, at any time or on any grounds, to exclude. Nor need there be any increase of "vocational training". In practice there is a good deal of that at present, unnoticed because the range of vocations catered for is a rather narrow one. In fact, the range of jobs for which a university career is regarded as a valuable preliminary must be greatly widened. Still less need there be any

muttering, in horror, fear, or contempt, of the word "Americanization".

This is our dilemma, and we must find a way out of it. Either we recruit on the basis of examination performance and promise, neglecting the wider purposes which most of us in our hearts believe that we ought to serve: or by our system of recruitment we reject many men and women whose exclusion from the universities is a serious loss to them, to ourselves and to the nation. Present procedure is too frequently based on a rule-of-thumb scholastic criterion which works well enough for the academic minority but ignores those qualities of personality which slip through the meshes of examinations, either at school or at the university; and we are further bedevilled by the complications of LEA awards. How are these personal qualities to be assessed? Some say, by interview: but adequately to interview all the candidates for any one university would either demand a special full-time staff for the purpose or make terrifying inroads on the time of people who are paid to do something quite different. Nor is it certain that zoologists, philosophers or linguists, however distinguished, are the best judges of eighteen-year-old character. Some say, trust the schools. But, obvious gibes apart, not all schoolmasters and schoolmistresses know which of their pupils most deserve, as a national investment, the opportunities of university life. The line of least resistance is to take the academic paper qualifications of all the candidates and draw a line. Even to do this provides Deans, Heads of Departments and Registrars with sleepless nights and bitter correspondence; they deserve all the sympathy and none of the insults they daily receive. Their thankless job is made almost impossible because university opinion in general has not made up its mind what is the real function of the universities in the present day and age. In short, selection for universities will never be properly based until we have decided what universities are for. You cannot select until you know what you are intending to do with what you have selected, and why, in relation to that end, you have selected it.

Perhaps the December Conference will lead us to a clearer mind on these issues.

II.

By Roy Pascal

Professor of German, University of Birmingham

There is a tendency nowadays, in view of the great number of applicants for admission to universities, to institute more, more complex, and more " objective " tests. I wish to suggest that this trend not only is laying an unwelcome burden on selectors and would-be students, but also in some important respects leads to an illusory goal.

Three difficulties for candidates

It is not my purpose here to discuss the conditions under which suitable applicants may get to the position of presenting themselves, adequately prepared, to admission authorities. But there are three main factors which operate to the disadvantage of many candidates or would-be candidates (particularly of those not in the first academic flight), and with which we should not be content. There is a wide discrepancy between schools as regards teaching facilities, particularly in the sixth forms. There is a " wastage " at the age of 15 or 16, in some part due to parental income. Above all, some local authorities are more niggardly than others in the award of grants; and altogether, the size of grants is rapidly becoming inadequate, in view of the rising cost of living. Selection as a total problem demands the consideration of these extra-mural conditions. My present purpose is however to consider the reliability of our methods as applied to the candidates who present themselves to the universities. They can be summed up under three heads: entrance examinations; head teachers' reports; interviews.

The classical method of testing academic quality is the entrance examination, which has been adopted by many of those universities and colleges (*e.g.*, women's colleges) that suffer particularly from the pressure of applications Some are extremely stiff, they differ in their character and composition, and constitute an immense strain on those candidates who pass unsuccessfully from one to the other in the course of their last two years at school. They are usually associated with other tests (interviews, etc.) and their particular function is to test intellectual capacity. Preparation for these examinations, and the nervous strain of taking them, have severe effects on pupils at school and, often enough, harmful after-effects.

At the same time, the correlation between results in these examinations and later academic achievement seems to be lower than that of suitable intelligence tests, for which of course there is no comparable strain of preparation (see Dr. Himmelweit, *T.E.S.*, March 30th, 1951). More energetic research into intelligence-testing at this academic level might well lead to a progressive reduction of this bugbear of multiple and exhausting entrance examinations.

On the whole, considerable attention is paid to Head Teachers' reports—though universities might respond more fully to the plea of Mr. James that a more standardized type of letter-report be asked for (*T.E.S.*, March 2nd, 1951). But investigations carried out at Birmingham indicate that such reports alone do not give sufficient guidance. It was found, for instance, that (with respect to schools supplying the University of Birmingham) while interviewers and head teachers held similar opinions on candidates respecting their physical prowess and participation in school life, there was a marked disagreement on their intellectual powers and suitability for teaching (the investigation was concerned with future teachers)*. The head teachers knew much more about the first type of qualification than the interviewers; and no-one knows who is right concerning the second. But the discrepancy is such that universities would not be content with school-reports alone. In any case, particular universities, colleges, or departments may require special characteristics, which lead them to reject candidates who may well fit in elsewhere. Rejection on such grounds does no harm, providing the candidates can get in at another place. An investigation carried out by the main teacher associations together with the Association of University Teachers indicated that rather few pupils who, in the view of their head teachers, were fitted for university education, failed to find a place in 1949–50†. At the same time, this investigation revealed a wastage of academically gifted pupils who leave schools at the age of 15 or 16—a reserve of undefined size which may some day make claims upon the universities.

The interview has come to be relied on as the chief guide in making a selection. Examination results and head teachers' reports are of course consulted, and sometimes additional objective tests are applied. But it is probably true to say that, where interviews are

* G. E. R. Borroughs, *Selection of Students for Training as Teachers.* Diss. Birmingham 1950.

† Summarized in Minutes of the Central Council of the AUT, December 1950.

granted, the result of this personal contact is decisive. Yet there is widespread dubiety about the reliability of interviews. We know that interviewers tend to choose candidates " in their own image ". If reliability tests are made, *e.g.*, through a follow-up, they tend to be unconsciously biased by the desire to justify the original choice, and rejected candidates are not included in their scope. There is the greatest unclarity concerning the qualities that are needed in a student. Intelligence tests may be devised which can fairly accurately foretell future success in the Final university examination; but is admission to a university to depend solely on proficiency in examinations? This is an acute danger in many universities, where admission is effectively in the hands of a particular department, which may well see its Final examination as the absolute purpose of its students; admission through a college tutor, as at Oxford and Cambridge, is less prone to this one-sidedness, though it may follow other equally disputable principles. Even when a precise vocation beyond the university may be envisaged, requirements cannot be made precise. " Suitability for teaching " has been defined in numerous and conflicting ways. One might think that Medical Faculties are here at an advantage; but Dr. Cowell writes that there is no definition possible of the aptitudes desirable in a medical practitioner—that is, so many aptitudes and temperamental qualities are suitable that the selection of candidates cannot be decided on these grounds alone (*T.E.S.*, March 23rd, 1951). How much more difficult is the choice for departments which are not directly linked with any profession, such as most of the arts departments!

A plea for a more generous policy

It is an unhappy situation in which injustices must occur. They would be fewer if selection were less rigorous, but as a matter of practical policy there are limitations of numbers imposed by occupational opportunity (*e.g.*, in medicine), by the facilities and number of staff in a department, by considerations of " balance ", by a number of more or less justifiable considerations, that impose selection as a necessity. I would suggest however that, wherever possible, admission should be more generously administered than at present, with the proviso that students who are obviously unfitted to proceed should be more severely dealt with at the end of their first year, when we know more about them. Even then we can make serious mistakes of assessment at the end of a year's

acquaintance; I have seen, in my own small department where we can establish rather exceptionally close personal relations with students, unexpected (and I think unforeseeable) intellectual development and temperamental adjustment in students whom I had almost given up as hopeless. A more generous policy of admission could most easily be tried out in Arts and Social Science Faculties, since they are not limited by bench-space. It might not lead to an increase of numbers in the later student years, but the quality at the lower end of the scale might be thereby improved, and personal injustices lessened in number.

In searching for precise objective tests of qualifications for the university we are surely chasing a will o' the wisp. The uncertainty and changingness of the requirements of the profession, the unclarity concerning the qualities of the good school pupil and the good student, leave us groping. But in addition, there is no means of ascertaining what potentialities exist in a boy or girl until they are thrown into circumstances which awake these potentialities. The university (like post-university life) is not so much a framework into which a person has to fit, but a powerful stimulant; it does not so much mould a " given " personality as (in part) create it. Objective intelligence tests like examinations, including such special tests as those for manual dexterity in the case of dental students, must be used; but " objective " definitions of psychological qualifications, for student or post-student life, are a snare we should avoid—like the idea of " culture-patterns " of some anthropologists, they fail to recognise the dynamic element in all social institutions. Thus the rough-and-ready assessment of interviewers who are members of a university staff seems to me the most reliable method of selection; its reliability depends on their awareness of the university's function and character, that is, on the character and life within the university.

The great increase in the number of students over the last thirty years has not been accompanied by a lowering of standards; I believe, indeed, that standards have steadily risen. This is due not to an increase of innate intelligence, nor only to the more generous number of grants, but primarily to the increase of facilities in material and staff. We are told, by researchers and head teachers, that there are still potential university students who do not stay at school long enough to apply for admission to universities; and I suppose the normal opinion is, that if these boys and girls do enter the channel leading to the universities, the number of places available will not

alter, so that all that will happen will be that the problem of selection will become more arduous. There is some justification in this view if the universities cannot look forward to a steady enlargement of their resources. But, in a stagnant situation, the opinion is likely to arise that there is a fixed reserve of national intelligence, and a definable maximum to our student population. This opinion seems to me to be erroneous, for both figures must vary according to our social and educational institutions. The development of intelligence must depend on opportunities at levels with which the universities are not directly concerned ; but, if such opportunities do exist, and if facilities at universities increase, then the number of students admitted may steadily grow larger without endangering standards. At the present time, a general all-round development of academic resources is prohibited, since re-armament absorbs so large a proportion of the national income. But even in present circumstances, development is possible, and is going on, in this or that department, irregularly and spasmodically. It would therefore be an error of principle and of practice to chain selection-policy to a national university policy, and equally mistaken to establish in any particular university an over-all policy and a centralized procedure of selection. Policy and procedures should be (where necessary) decentralized, so that those departments or institutes which are expanding may admit as many students as their resources will allow. It will be wise and right that universities avoid the formulation of more rigid general principles, as well as more rigid objective tests, and encourage departments to do what they believe they can manage.

III.

By J. H. Nicholson

Principal of University College, Hull

So much has been written on this subject that it is difficult to say anything new on the general problem. But changes of emphasis have occurred during the past two years, and it is no longer so easy to generalize as it was. With the ending of the further education and training grants for ex-service men and women, and the abolition of four-year grants for intending teachers, the extreme pressure on the universities has relaxed. Economic stringency has led to a closer scrutiny of requests for assistance from L.E.A's. Policy at the highest levels no longer demands the greatest possible expansion —indeed, there have been warnings against the over-production of graduates in certain subjects. Candidates themselves are becoming aware that a degree is not in itself a guarantee of a job.

The question of numbers

Within the universities opinion is hardening. Six years' experience of post-war undergraduates has led to some questionings as to the quality of the new " intake ". Overcrowding and makeshifts were tolerated as temporary expedients; now that building has been slowed down, and indeed is drastically rationed, standards of teaching and research are seriously threatened. Somehow the demands made on the universities and the resources available to meet them must be balanced. The obvious answer is to adjust numbers to fit the present potential. From this point of view a fall in the number of applications is to be welcomed, and admissions should be planned to attain the optimum level as soon as possible. But the obvious answer is not necessarily the right answer, as closer analysis will show.

There is no means of ascertaining the possible number of " valid " applications for admission (*i.e.*, applications from candidates who hold the minimum entrance qualifications). Proposals for a clearing house are strongly (and, in my judgment, rightly) opposed in the interests of university autonomy. But reliable statistics would be valuable, even if they were based on data for the previous year—and so safe from this danger. They would, over a period of years, at least show trends. Failing figures, one must rely on casual information. This seems to show that while the pressure has decreased, it is still strong in certain subjects (notably of course

selector must estimate not only their intellectual ability and the knowledge they have acquired, but the degree in which they possess other *desiderata*—such as sensitiveness, curiosity, adaptability and perseverance, or even a real flair for a subject or a way of life of which they have had little previous experience. He must be ready to take some risks, and to back his hunches, provided that in doing so he does not do less than justice to the many sound but undistinguished candidates. Admittedly it is difficult to do this from paper without an interview; but skilful examining and the right kind of confidential enquiry will go a large part of the way. Under the present system selection is a joint enterprise in which the schools, the examiners for the General Certificate and the universities are partners. It is important that they shall understand each other. It is important, too, that the local authorities, on whose grants the majority of students depend, should have confidence in their judgment.

A suggested conclusion

It is in the light of such considerations as these that an answer must be sought to the question of numbers. The right answer cannot be given as a predetermined figure except as a maximum related to, but not too narrowly defined by, accommodation and teaching power. Within this figure numbers must find their own level. If we can do what is right by them, we should take all those who are really worthy of a university education, and we should take none who, in our judgment, are not. We must accept the consequences of this policy whatever they may be. If numbers are allowed to find their own level, the effective demand for university education can be measured, subject by subject. The whole picture will then become clearer, and the universities will be in a strong position to press their claims for the resources necessary to maintain or to re-establish appropriate standards of teaching and research, and, if need be, for further growth. This is the only policy for which the universities should accept responsibility. No doubt it is desirable that the supply of graduates in the various subjects shall, over a period, accord with the demand for their services, but frequent changes of pressure are undesirable: a university should not be treated like a concertina.

IV

By R. R. Dale

Lecturer in Education, University College, Swansea

There was a time when university scholarship holders were an élite among intellectuals, gaining their awards as a result of a highly competitive examination. Such students were the cream of the grammar schools, and the cream was rich because the spoon skimmed the milk only lightly. In recent years the spoon has dipped more deeply; the consistency of the cream is naturally thinner.

Scholarship holders to-day

The great majority of scholarship holders used to proceed to a good Honours degree, as in intellectual ability and often in application to study they stood out head and shoulders above the majority of their fee-paying contemporaries. At the present time, however, some of them are failing even in their first-year university examinations. Dignified by the term scholar they are expected to do well, but their critics are inclined to forget that the minimum standard for the scholarships of progressive authorities is rapidly becoming almost the same as that of admission to a university place.* Hence it would be very surprising indeed for all such scholarship-holders to pass their first-year examinations. If present trends continue such an occurrence would, in a few years time, mean that all candidates would have passed. The position is not yet so simple as this because of fee-payers who at present enter the Intermediate year with Matriculation qualification, and because some authorities have not yet sufficiently increased their scholarship allocation, but the essence of the statement remains substantially true; it will become increasingly so as the " backward " authorities bring their scholarship schemes in line with those of the more progressive authorities. The ending of the Further Education and Training scheme and of the Ministry's grants for the university education of intending teachers will both reinforce this tendency. A place and a scholarship will be identical, although the grading of scholarships themselves will continue.

* Higher School Certificate was becoming a common standard for both. Presumably the new University Entrance requirements based on the General Certificate will perform a similar function.

Requirements of Local Authorities

The marked divergence between Local Authorities in the standard of attainment they require for the award of a scholarship makes the subject extremely confusing. Some Authorities require only a pass in Higher School Certificate, others three "principals", another insists on at least one distinction, while many make awards only to a fixed number at the top of the Higher School Certificate lists. Confusion is added to confusion by the award to other students of "bursaries", "emoluments", "grants" and "hardship grants", partly because these terms tend to lack uniformity in meaning, but mainly because the Higher School Certificate performance of some candidates holding these "grants" is better than that of a number of students holding scholarships under other authorities. The same remark is true of many holders of Ministry of Education awards for the training of teachers, who are superior academically to those "scholars" who have merely secured a bare pass in Higher School Certificate.

The serious inequalities among the awarding authorities may be leading to occasional faults in selection by some universities. Student A, who obtains a poor Higher School Certificate but is awarded a scholarship by a generous authority, may, through the "halo" effect of the scholarship, obtain admission in preference to Student B, who has a better Higher School Certificate, but whose Local Education Authority is either poorer or less generous and fails to grant him an award. A recent enquiry has shown that financial reasons would also often prevent students in B's position from applying for admission.* Fortunately, the new scholarship schemes will remove many of these injustices.† It does not appear, however, that all inequalities will be smoothed out immediately. For example, Essex County Council has decided that scholarships will be awarded only to those passing in *three* subjects at the "advanced" stage rather than two.

Admission to universities

It might be well to consider the general question of admission to universities (excluding Oxford and Cambridge), since the

* "Selection and Maintenance of University Students," Association of University Teachers, Circular, October 1950.

† See the Report of the Working Party on University Awards (1948), H.M.S.O. It recommended the increase of local authority awards from 4,000 to 7,000, State scholarships from 800 to 2,000, and further increases in University Open Scholarships.

granting of a place will soon mean in practice the awarding of a scholarship. Most universities admit their students before the Higher School Certificate results are known, but make the award of a second-year place dependent upon a pass in that examination. In consequence some applicants who are excluded, perhaps without interview, have better Higher School Certificates than some who are admitted. This is a complaint made fairly frequently by heads of schools. In this connexion it is not without interest that in a recent year perhaps as many as a thousand students considered by schools as worthy of a university career were rejected.* Some of these would not have been suitable, but when one thinks of the large number of students who fail to graduate one cannot but wonder whether the present system of selection is as good as it should be.

Perhaps the most serious fault in the system of selection is caused by some applicants being admitted to the first year of a course and others to the second year. Students in the latter category are those who have gained a Higher School Certificate, while the former are students who have only a Matriculation and may have failed in the Higher Certificate examination. Practice varies in this matter from department to department and from university to university, but the above is a usual procedure. Now, it is very proper to have a lower minimum academic standard for entry to the first year, but it unfortunately leaves a loophole for inferior candidates. If these manage to pass their Intermediate examinations and move up into the second year they prevent the entry of better students who have stayed on at school to take Higher School Certificate. This factor would of course operate only when the pressure of candidates is so great that some pupils with Higher School Certificate have to be excluded. Some universities and particular departments are naturally affected more than others.

An example would illustrate the point more forcibly. A Miss X applied in the autumn of 1948 for admission in 1949 to a University and to its Department of Education. She was interviewed by the Department of Education in March and provisionally accepted, subject to her passing Higher Certificate and being admitted to the degree courses. Her Matriculation was not quite complete, and presumably because of this she was rejected by the academic side before the Higher Certificate results were known. An additional

* Circular of the Association of University Teachers, *op. cit.*

been an important bulwark against undue influences of many kinds. None the less the success of all three accrediting schemes indicates that the regular and full use of the heads' assessments as a supplement to the General Certificate results would be a valuable aid to good selection. The value of these assessments would be increased if the universities kept a record of them, compared them with the university careers of the students—and informed the heads of the results! Such a system would enable the heads to arrive at a reasonable standardization of their assessments, and would also enable the authorities to decide which of the estimates were reliable. This procedure would resemble that in the accrediting system, where a school which regularly accredits unsatisfactory students is deprived of the privilege. It is obvious that if the universities fail to agree on the adoption of post-Certificate selection, then the heads' estimates should play an important part in the admission decisions.

Alternative methods

The Secondary Schools Examinations Council recommended that the examination for the General Certificate of Education should be placed earlier in the year in order that the results should be available for the award of scholarships.* The Committee of Vice Chancellors,† presumably for administrative reasons, has recommended the selection of a large number of local authority scholarship holders as early as May, i.e., long before the examination results are known. The awards would, however, be conditional upon candidates attaining the required minimum standard in the General Certificate of Education. This is also the policy put forward by the Working Party on University Awards.

Although this is almost the same procedure as is now used for student selection, an entirely new principle is involved in the adoption of this system for the award of scholarships. Many local education authority scholarships will in future be awarded by accrediting and interview, with a qualifying examination, instead of by competitive examination. There would be a danger in a few places that awards would be partly determined by the status of the candidates' schools. The great majority of members of university staffs are very free from

* *Examinations in Secondary Schools*, Report of the Secondary Schools Examinations Council. (1947.)
See also Ministry of Education Circular 168 (1948), para. 8.

† Report of the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom, the County Councils Association, Association of Municipal Corporations, etc., on *University Awards by Local Education Authorities* (1950).

such bias, but it seems that there remain a few who would be consciously or unconsciously influenced, as is shown by a recent official pronouncement.* Many Local Education Authorities would rightly decline to award scholarships by this method if they suspected that the recommendations were influenced by the prestige of the candidates' schools.

Another difficulty of the method would be that *all* candidates for Local Authority scholarships would have to be interviewed, with the exception of the comparatively small proportion not recommended by the heads. In other words it would mean the unnecessary interviewing of all those who later in the year would gain State scholarships (further increased in number), of many who would fail to qualify in the examination, and of all others included in the top half of the " order of merit " in the two or three subjects taken at the " advanced " stage.

An increasing demand for admission

For various reasons it is probable that there will be a considerable increase in the numbers of students who qualify for admission and also in the proportion of those who wish to proceed to university studies.† The increasing demand for education is well illustrated by the following figures, showing that between 1939 and 1948 the number of candidates presented for the School Certificate Examination increased by 65 per cent and those presented for the Higher School Certificate by nearly 125 per cent In 1949 the rate of increase was maintained in the case of the Higher Certificate, though slowed down in School Certificate.

There will therefore be keen competition for places, and the difficulties of selection will be greater than at present. In a few years' time even the School Certificate results of applicants will cease to be available as a guide, and no one can pretend that a few passes at

* " Selection will be no easy business, but I hope we shall always be mindful of the old family and school loyalties to which we have owed so much." From the " Record " September, 1950, of an Oxford College, as quoted in the *News Chronicle*.

† The difficulty of the present position is shown in the circular of the Association of University Teachers, mentioned previously, on " Selection and Maintenance of University Students." It gives a summary of the results of a questionnaire sent to schools by secondary school organizations. Replies from 1,473 schools showed that 365 pupils considered by schools as worthy of admission did not apply because of lack of finance, 844 pupils considered by schools to be worthy were rejected and had left school, and 53 pupils who were offered places had to withdraw for financial reasons. Many of the schools reported a serious wastage of potential university students at the ages of fifteen and sixteen, again for financial reasons.

Examination	Number of Candidates					
	1939	1945	1946	1947	1948	1949
School Certificate	80,673	91,853	100,160	107,356	113,192	114,811
Higher School Certificate	13,255	19,166	23,063	26,322	29,731	32,656

the " ordinary " level will be of much use in selecting students for scholarship awards. Incidentally, if the schools follow the policy recommended by the Secondary Schools Examinations Council, that the " ordinary " stage should often be by-passed, these " ordinary passes " will not even be in the candidate's main subjects.

Three alternatives

There are three clear-cut alternatives. The first is that the universities should be further expanded to enable them to take all applicants who qualify. In view of the recent increase in the numbers of students this is scarcely a practicable policy.* The second is that the universities should state that they do not intend to use the General Certificate of Education as an instrument for the *selection* of Local Authority scholarship holders, though they are retaining its use for qualifying purposes. As there appears to be no intention of selecting *all* entrants by separate university scholarship examination, this would entail the conscious adoption of a system similar to accrediting. Its success would depend upon the keeping of a statistical check on the relationship between a school's forecasts and the actual performance of its students at the university.

The third alternative is that the universities should wait until the publication of the examination results on August 1 before nominating students to Local Authority scholarships. Those students gaining State Scholarships and also those in the top section of the " advanced "

* A slight decrease in some institutions for 1950–51 is probably due to the ending of the Further Education and Training Scheme for ex-service men, and the slowness of some authorities in implementing the Ministry's policy of increased scholarship provision.

subject results need not be interviewed. The latter could be nominated to Local Authorities immediately for scholarships. The remaining candidates could be interviewed either during August (not convenient, but a rainy month !) or at the beginning of September. This would have the advantages of curtailing considerably the number of interviews, and providing the selectors with an additional guide to the candidates' academic achievement. It would also simplify the administrative procedure.

One aspect of the new system of scholarship awards deserves special mention, particularly as it seems to have escaped notice. The order of procedure has been reversed. Previously the Local Authorities nominated scholarship holders and the universities then accepted or rejected them; in future the universities will nominate and the Local Authorities will apparently have the right to make a further selection. Unless all Local Authorities commit themselves beforehand to the award of scholarships to *all* university-nominated students they may in fact determine, indirectly, which students enter the university, since many students who were refused Local Authority awards would be unable, for financial reasons, to take the place offered them by a university. Under the old procedure the result was in the end the same, as such financially poor students would not even have applied to a university for a place, so the question of their entry never even arose. None the less a university might have the experience of seeing its best nominations refused scholarships and some of its worst given them ! An exaggeration, it may be, but not without an undoubted grain of truth at the centre. Nor would the universities have sufficient evidence on which to base an order of merit list, unless they waited for the General Certificate results.

It is worth noting in conclusion that some universities use the actual marks obtained by applicants in the school external examinations; others have only the letter gradings available. Whether the marks are used for the general selection of students, or only for the late selection of the borderline candidates and for educational guidance, their value is considerable. If in the new General Certificate the only gradings are Pass and Fail, at Ordinary or Advanced standard, the availability of the marks becomes almost essential.

INDUSTRY AND SCIENCE

By. N. G. McCulloch

Chairman of the Shirley Institute

It is a common habit to speak of the industrial revolution as an event that happened once and for all. This, of course, is not so. It was revolutionary because of the radical changes that came about in the lives and habits of the people and in the manner of our manufactures. It was revolutionary in its effects but evolutionary in its methods. James Watt, building on the work of his predecessors, invented the steam engine, from which time there came a slowly swelling stream of new ideas and inventions. But the expansion has not been one of simple gradualness. From time to time new ideas, new principles, came, that added impetus to the flow and changed the direction. From the time of James Watt, at least three phases can be distinguished where the changes were of such magnitude that each merited the name of " industrial revolution ".

The first of these phases is the industrial revolution in this country, which sprang from the invention of the steam engine bringing with it the broad principle of power in almost unlimited quantities and at low cost. It was upon this principle that this phase rested, and this knowledge liberated an outburst of inventive ability which, until then, had lain dormant and unsuspected. This outburst of invention took place spontaneously and in unexpected places. It would not have been possible to forecast from where the next invention would come or what kind of mental training would favour it. There was first the simple inspiration, the liberating power of a new idea, and what followed, so to speak, just happened. Nature scattered her gift of contrivance, and where this mother-wit was found invention sprang up. James Watt, for example, came from humble circumstances in Glasgow, and picked up his knowledge of engineering by accident. Wilkinson, the inventor of the blast furnace, was the son of a foreman on an iron furnace. Arkwright, the inventor of the spinning frame, was a barber. Kay, his assistant, was a watchmaker. Hargreaves and Crompton were spinners. Edmund Cartwright, who invented the power loom and other textile machinery, was educated at Oxford for the ministry, and became the rector of a country church.

These inventions did not come from men who had been educated

in science. They were not learned men. They were men to whom opportunity proved an inspiration for the development of their native wit, their gift of understanding things mechanical. They depended upon the endowment of native ability to make things work before their eyes—the pleasure of seeing the wheels go round; success came almost entirely by a process of trial and error, and their genius in contrivance concerned itself for the most part with mechanical skills.

The point to be made is that the English industrial revolution had in it an element of the haphazard and the fortuitous. There was nothing ordered or over-ruling or guiding about it: it more or less just happened, and sprang from the knowledge of the opportunity that had been created. As discovery succeeded discovery and industrial applications widened their usefulness, science came in and provided intellectual understanding of principles involved. The problem of industry became the opportunity of science. First the intuitive power of the inventor, and then the logical mind of the scientist to provide a rational philosophy.

Perkin's Discovery

While this revolution was coming to its fruition and the achievements of British industry and commerce were being celebrated by the Exhibition of 1851, another revolution was being born. The discovery of Mauve by Perkin* in 1856 proved to be the starting point of a new industrial achievement. Its first purpose was the making of synthetic dyestuffs for use in the textile industry, and out of it grew a great organic chemical industry. There was research work of high intellectual calibre and a succession of brilliant discoveries, and the industry grew apace. With its expansion came the inspiration and means for new enterprises and high adventures in trade and industry. Great benefits were conferred by placing in the hands of the medical experts new means of combating disease and encouraging a wider spread of health and vigour. The discovery of the fixation of nitrogen and the growth of the artificial fertilizer industry; the advances in biological chemistry; the discovery of synthetic rubber and resins, and the rise of the plastic industry; all added lustre to the wonders of this second industrial revolution.

Perkin was a great chemist and his work in the science of organic

* "Industries Debt to Science," J. Baddiley, *Journal of the Society of Dyers and Colourists, July*, 1947.

chemistry has placed him in the front rank of scientists. It is, however, a mistake to suppose that to him is due the great developments which have made this second industrial revolution. There had been chemical discoveries before which had been turned to industrial use—for example: Leblanc's work in the making of alkali in France; the production of chlorine by Scheele, Deakin and Weldon. They sprang also from the brilliant work of scientists in the laboratory and were chemical discoveries which, when turned to large-scale industrial production, proved to be of value to the community. They were excellent examples of how scientific discovery can be turned to industrial wealth. But there was a world of difference between them and the results springing from the discovery of Perkin's Mauve, for they remained small industries complete in themselves and not disclosing new avenues of scientific endeavour. It was not that Perkin opened up another line of chemical research out of which came new discoveries and new theories for the attention of the academic research workers. There was a secret that escaped the understanding of Perkin, great scientist that he was.

Unique contribution of German scientist

Perkin's work drew many foreign scientists to this country, among whom were a number from Germany, the most outstanding being Caro.* Caro worked in this country on the newly established dyestuff industry, and after a few years he returned to Germany to establish the industry there. He took with him not only the inspiration of Perkin for work in a new field of investigation and of new methods for its accomplishment, but also a more subtle observation that had escaped the attention of Perkin. Caro's discovery was the realization of the immense possibilities that lay in the large scale development of research in industry, research not in universities for the purpose of advancing learning, but as an integral part of industry, inherent in and vital to it.

Caro was himself a brilliant inventor, but his greatest achievement was the establishment of this principle. With remarkable acumen and insight, he realized that if the fruits of research were to be effectively and fully reaped by the founding and growth of new industries, then the research and the industry must be associated together as intimately as it was possible for them to be. He never slackened his energy in the pursuit of this purpose, which was

* ibid, p. 41

marked by German thoroughness. As fast as he could he widened its scope. He described his purpose in the words—" Never copy, always invent ", and on it the German organic chemical industry was founded and developed, while the industry in England languished.

It does not depreciate Perkin's discoveries to say that the principle of Caro was not realized by him. Perkin joined in the industrial production of Mauve but never established a research department in his works, where the dyestuff was being manufactured. Eventually he left industry and returned to academic life without having found it desirable or necessary, or even having thought of the need to have research work in industry. Had he had the bolder conception and faced the risk, what immense benefits would have come to this country, and to the world.

To Caro belongs the credit of having realized that science and industry combined together have immense potentialities. The idea of large scale industrial research developed in the electrical world, but it was based upon the simple principle of Caro's, that research was no longer confined to eminent scientists in seats of learning. It had its place in industrial life. It does not seem necessary to dwell upon the magnitude of the industrial developments based upon the use of large scale industrial scientific research laboratories. They are all too well known to us. What cannot escape our notice at the same time is the tragedy of a great opportunity missed. This country was within an ace of a second industrial revolution which could have established our fortune and our position in the world, and ensured to us industrial supremacy for a long time to come. We failed to realize that if we would not only gain wealth from scientific discovery but keep scientific thought itself vigorous and vital, it must be closely allied to the active efforts of productive enterprise. The tragedy is deepened in that it required the awakening power of a world war to make us realize our loss.

U.S.A. achieves industrial supremacy

The second industrial revolution—the German industrial revolution —differed from the English revolution in that it was the work of men who were among the finest fruits of university training, men of high intellectual attainments; and it had all the order of scientific thinking. There was about it nothing haphazard or accidental: it brought out the great value that science could be to humanity. It bears unassailable witness to the fertility and riches embodied in

the simple observation of Caro. And because it has become embodied in every industry built on scientific research, we should not forget that it did constitute an original and novel departure.

The English revolution was the work of unlearned men. It had about it an haphazard element, and history may decide it exercised a greater influence upon the world's history than did the German revolution. It showed our native worth and it was fully in harmony with the pioneering spirit which had marked our national efforts in the preceding centuries. The German industrial revolution was the fruit of an entirely new outlook.

After 1918, when the realization came home to us of what had taken place in German industry, great efforts were made to redeem a lost opportunity. Those efforts were of great avail and time has shown that our own scientists are able to combine industrial production with scientific outlook as effectively as did the Germans. We have recovered our position in regard to scientific investigation, and later events have shown that there is nothing inherently lacking in the mental ability, skill and tenacity of our scientists.

It must surely be disturbing for us to realize that a third industrial revolution has taken place—this time in the United States—and again it has required the exigencies of a world war to bring home to us with force the situation which exists in that country.

Many British observers whose duties during the war brought them into touch with the United States, were impressed by the remarkable resilience shown by the industry of that country and its ability to rise to increasing demands as the years of the war went by. It was natural, therefore, that when the days of peace came enquiries should be made to find out what the secrets of American success could be. The satisfaction of this curiosity was made possible by the friendly relations which had been in existence during the war, and doors were thrown open to British and allied observers. American industry has shown itself willing to give advice under pressure of these circumstances, advice that at other times might not have been so readily forthcoming.

To those who think that too much credit is being given to the United States for the success of their industry, and that too much is being made of the measure of that success, let them read the reports of the teams of industrial experts which have investigated American industry. Few will understand all the technological details of all the reports; nevertheless any reader will find abundant evidence of

the enterprise of the United States. It is indeed not too much to claim that what the Americans have achieved is worthy of the name of a third industrial revolution.

Scientific basis of U.S.A. supremacy

In reading of American industrial methods and in discussion with American industrialists themselves about the conduct of productive as well as commercial enterprise, one is struck by the repetition of certain phrases which would seem to be pointers to their underlying thought. Words such as Time Study, Motion Study, Method Study, Market Research and Consumer Research, are constantly in use by their industrial and commercial management. They have become such household words that American ears are thoroughly accustomed to their usage, and they are accepted naturally and without comment. But they are phrases which have definite association with United States' industry and with the outlook of industrial and commercial administrators. Indeed, they are of great significance. The words " Study " and " Research " indicate a considered method of thought and work, and further investigation shows that this is precisely what has taken place. The United States' industrialists have made a discovery about science as simple as that of Caro and as full of potentialities. Caro brought scientific research to be an inherent part of industry, and used the results to establish new enterprises of great moment. The United States has brought science not only to the discovery of new products but into every phase of industrial and commercial activity, from the raw material right through to distribution, and to a consideration of the needs and wishes of the ultimate consumer. The Americans have realized that science is not a system of study confined to laboratories, whether they be laboratories in universities and technological institutions or in industry. They have not changed scientific thought or method but they have pushed forward their frontiers and enlarged their possibilities. As simple as was Caro's fundamental philosophy, so equally is the discovery of American industrialists that science is not confined to scientific experimentation nor is it the sole domain of scientists skilled in laboratory work, but it is a method of thought available and practicable in every aspect of life. Like Caro's discovery, it also is simple, and like all simple discoveries it seems obvious when stated.

Observers other than industrialists and scientists have made this

same comment. André Maurois, who spent some time in the U.S.A. during the years of occupation and lectured in American universities, writes in his *My American Journal* :

> " The main reason for its (U.S.A.) success in peace and war is scientific organization. Europeans do sometimes achieve marvels in that line. Yet in America there is a more general and sustained effort to organize scientifically every aspect of life. What makes the value of science is essentially a method which has improved the position of man in the universe. There is no doubt the civilization of to morrow will be and should be more scientific than the civilization of to-day. The U.S.A. have given a lead in that direction. There is also an effort in America to apply the methods of science to human elements, to organize production and distribution, to rely in every field on experimentation rather than on routine."

Maurois' plea for scientific organization in " every aspect of life " may be criticized. It may be said there are aspects of life into which science cannot enter, and questions it cannot answer. That in the regions of the poet and the artist and the world of spiritual values science has no place. But these are problems too deep and wide for such a discussion as this. Maurois is concerned with the problems of material prosperity.

Our danger is that of believing that by buying American machinery and copying their methods, all will be well with us. We ought rather to understand the fundamental principle on which their success rests, and adopting Caro's motto—" Never copy, always invent "—seek solutions to our problems which will fit our own special and peculiar needs by efforts based on that principle.

This conception of scientific thinking being applicable to the organization of every aspect of life is sometimes held to be too simple an explanation of American industrial success. Attention should be given, it is claimed, to an expanding economy ; the shortage of labour ; the vast resources of the U.S.A. ; the spirit of competition and individual striving implied in the term—" American way of life ", and so on. These are no doubt factors whose value is to be assessed, but no system of logic can make them the cause of the definite determination to submit habits and customs, methods and processes, in and out of industry and commerce, to the searching criticism of orderly investigation. The explanation that the Americans have

seized on new possibilities of scientific thought alone accounts for the enhanced resilience and resourcefulness of their industry to-day.

Twice within two generations this country has missed opportunities of maintaining its industrial leadership, and in both instances the relationship between industry and science has been involved. In Germany and America, academic science embraced and consolidated the alliance and shared in the achievements. When German scientists became industrialists and brought research into intimate relation with large scale production, industry began to repay its debt to science and the academic worker reaped a rich harvest of wider visions and ampler opportunities. In the U.S.A. the close relation between industry and science is a marked feature of university life. There may be fears that such intimate association with industry might lead to a degradation of cultural values or to a loss of that freedom of the academic scientist to pursue the course of research to which he feels himself impelled. The intellectual integrity inherent in research will not only guard against the first of such fears but will offer an opportunity to impart that outlook into the practices of productive enterprise. For the second, one can recall in the war years that prominent scientists left their physics, genetics and mathematics, to aid the navy, army, and air forces in their practical problems, and did so with high success. The need of the nation to-day is no less clamant than in the more dramatic times of war. To develop and strengthen this close co-operation and relationship between industry and science is a prime and pressing need of the country, and demands the utmost goodwill of leaders in university and industry.

It is said that knowledge is power. If this is so then in our universities and learned societies, where is gathered the highest degree of knowledge and intellectual ability, there must be the greatest potentialities for power. Is it then too much to ask, not whether they are meeting their social responsibilities but whether they can rise to even greater heights of service ? Can they not bring the nation and industry to an increasing sense of urgency by their demonstration of the wider possibilities of scientific thought and method which underlie American industrial supremacy.

INSTITUTES OF EDUCATION—II

By R. A. C. Oliver

Professor of Education and Director of the School of Education in the University of Manchester

III

There have then been gains and losses in the courses of training. Which have been the greater it would be difficult to say. I think, however, that, theories or no theories, the college would have had little choice in the matter. The fact of the demand for more teachers has made entry less selective. I do not think the more intellectual approach would have succeeded with most emergency scheme students or with many of the present entry. The relation between the pre-war training college and the post-war training college is analogous to that between the grammar school and the modern school. One would of course like to have the best of both worlds, spontaneity and freedom on the one hand, sound grasp of ideas and habits of thinking on the other. With an unselective entry and a two-year course, however, it is not surprising if the present training is, in the words of the Association of Teachers in Colleges and Departments of Education, " hasty, meagre, and illiberal ".

I have taken these attitudes to courses and examinations in the training colleges as manifestations of more far-ranging philosophies of education. Another example may be found in new attitudes towards the certification of teachers. Here we can see the application of another widespread tendency of our modern democracy, the tendency towards egalitarianism.

Formerly training college students received the teacher's certificate or the equivalent. University graduates who had completed the one-year post-graduate course were awarded a university diploma. The area training organizations have brought the training colleges and the university education departments together in the new Institutes of Education. To signalize this closer association some universities have abolished their diplomas, and strong pressure has been put on others to do likewise. It is argued that the Institutes should work for a unified teaching profession, and that the abolition of the diploma as an initial training award would help to achieve this: all teachers would receive a certificate only, signifying that they have attained the minimum standard on which a qualification can

be granted. Any differentiation of awards beyond that level introduces undesirable distinctions.

In my experience this dislike of distinctions is characteristic of two groups of people. In the first place there are those who are actuated by feelings of goodwill and brotherhood and who generously wish to divest themselves of anything that makes them seem superior. This is much the larger group in the institutes. The other group consists of those who are moved by egalitarian political theories, and who resent distinctions which mark off some people as more able than others, particularly if the distinction is of an intellectual or academic type. These curious bedfellows, the religious and the political egalitarians, have co-operated to abolish the diploma as an initial training award.

The further training of teachers

In the initial training of teachers, the area training organizations have not so far, on balance, done much better than the old training college examinations board. I foresee great opportunities for them in the further training of teachers. They have not had time as yet to do a great deal. They have taken over the short refresher courses and evening courses for teachers which some university departments of education have long provided, and are providing more of them. They are taking over the supplementary and special courses which the Ministry of Education and the training colleges and departments initiated, and are providing more of them. There is a vast field of useful activity here for area training organizations. Teachers need and want opportunities for more advanced study. They need them because their initial training is so short and sketchy and because they need to keep their knowledge and skill up-to-date. They want them because in general they are as a profession very conscientious, anxious to do their job well; and because many of them are ambitious and desire further qualifications which will help their personal advancement. Area training organizations are in a good position to provide facilities for studies in education. There is a danger that institutes will establish too many awards that are too easily come by, a danger once more of inflation. It seems likely that each of the area training organizations will establish at least one new Diploma in Education. Some may establish a number of diplomas, such as a Diploma in Primary Education, a Diploma in Educational Psychology, a Diploma in Educational Administration, and so on

ad lib. The Ministry of Education may make grants up to £300 a year for teachers to attend courses leading to these diplomas. An additional attraction will probably be, in some areas, that there will be no examinations. Some institutes dispense with them at the level of initial training, and will probably not think it right that teachers who aspire to training college lectureships and other responsible posts should have to pass examinations. Thus the Ministry of Education will supply the student's grant, the university the dignity of a diploma, and the institute the opportunities for attendance and the goodwill. It will not be surprising if these diploma courses are much in demand, especially if, as seems not unlikely, they lead to increments of salary and to prospects of more responsible posts.

Publications and research

Another danger of inflation comes from the ability of institutes of education to finance publications. An institute bulletin is an excellent means of maintaining interest and professional spirit in its area, and I hope every institute will have its own house journal of this parish magazine type. But institute publications are also an excellent opportunity for window-dressing, and I hope this opportunity will be successfully resisted. Articles which are likely to be of permanent value and of interest throughout the world of educational scholarship should not be published in institute journals, but should be published in journals which have a national or international circulation. One shudders at the thought of having to look through nearly a score of institute journals to find among the articles of local and temporary interest the occasional article which should have received international currency.

Finally, the general goodwill and unaccustomed financial resources of institutes have led to some inflation in what is termed research. Institutes have rightly thought it important to stimulate and to carry out research. Teams of people are talking about or even doing research: people have been appointed to do research. Too often, however, research in education means sending out an elaborate questionnaire to a great many people and summarizing their answers. Hundreds of opinions are made to look like one scientific fact, and a pooling of ignorance is accepted as a substitute for knowledge.

The number of people capable of independent and original work in education is limited. This is not surprising when we consider that most teachers have had two years' post-secondary education, only

part of it devoted to an elementary study of education as a subject. Graduate teachers have had one year's study of education. In no other academic field would students be thought capable of research with so little foundation. Unfortunately the ambitious teacher who is seeking a higher academic qualification has to be found so-called research to do. In many cases he would be much better occupied in carrying his study of education farther than he could in his brief initial training. It is to be hoped the new diploma courses which institutes are organizing will reduce the number of candidates for master's degrees in education to numbers more closely approximating to the number of people interested in and capable of research; and that they will provide strenuous training or supervision for those venturing on original investigations.

To sum up: the training of teachers was an activity which lacked status and lacked resources. It has suddenly had both thrust upon it, with a rather heady effect. On the whole the new responsibilities are being carefully discharged, but I see signs that the sudden expansion has had inflationary tendencies, manifested in the large volume of lively activity on a level not notably high.

IV

In conclusion I shall refer briefly to a few of the tasks which lie before us in the training of teachers.

A longer school life needed

In the first place, we must attract still more people into the teaching profession if we are to carry out the national educational policy. We need more teachers to educate the children in the post-war "bulge" and to reduce the size of classes as buildings become available. We need more science teachers. We need more graduate teachers for the secondary modern schools and the secondary technical schools. It is not for me here to discuss ways of making teaching more attractive, such as salaries and other conditions of work. One thing we clearly must do, however: we must retain more children at school to the age of 17 or 18 than we are doing. We are wasting too much of our excellent grammar school education by letting it terminate too early. We must keep more children in full-time secondary education at schools of all types to gather the harvest we need for teaching and other professions.

The wrong way to get the teachers we need would be to lower our standards—to make it too easy to get into a college, too easy to get

through it on a low plane of work, and to have an impressive-looking certificate handed to one as one emerged. A bad teacher supplies one unit towards the needed teaching establishment, the same as a good teacher, and looks as well in the statistics; but he is going to botch the education of many people's children. To achieve numbers at the expense of quality will do us no good.

A longer training

One thing which should be done is the extension of the ordinary training college course from two to three years. For this the McNair committee made out a conclusive case which has not been questioned by any competent person. The Association of Teachers in Colleges and Departments of Education have pressed this case persistently and cogently. The only question is when and how the three-year course can be introduced. The widened conception of the teacher's functions makes a more thorough preparation the more necessary. A less selective entry to training colleges makes a longer course highly desirable. But the very need to have more teachers quickly which leads to less selective entry makes it difficult to slow down the output from the colleges by extending the course to three years. Unless some way can be agreed on quickly for introducing the three year course by stages rather than all at once, this advance is likely to be deferred for at least a decade.

Another problem awaiting attention is that of the training of teachers for special schools for handicapped children of all kinds—the deaf, the blind, the educationally subnormal, the physically defective and the delicate, the maladjusted, and so on. So far only the training of teachers of the deaf is on a good footing: courses will have to be established at selected centres for other kinds of training.

Training in research

A task which will fall primarily to the university departments of education is the training of research workers in education. To carry out independent original work which will make a new contribution to knowledge, requires mental gifts and also appropriate techniques, whether historical, sociological, psychological or statistical. The techniques at least can be learned, but they need training which universities should provide as one of their special contributions to the work of the area training organizations.

My last suggestion is that the apparatus of scholarship in education is defective and should be rapidly improved. I am not referring to

the many periodicals for teachers and other educationists but only to the more learned journals which report the results of research and discussions at the highest level of scholarship. We are well served in this respect in the field of educational psychology. We need one or more new journals of international standing which would do a similar work for other branches of the study of education, and which would provide bibliographies, annual reviews of various fields, and similar aids to scholarship. This again is a field in which university departments of education could play a leading part.

In the last ten years the people of this country have become more aware of the value of education than they have ever been before. This change of attitude more than compensates for all the difficulties and disappointments we have had to endure. The respect in which teachers are held stands high. The training of teachers has shared the benefits of this new appreciation of education. We have been enabled to do much in the last five years, and with goodwill and intelligence we can go on to do better still.

The first part of Professor Oliver's article appeared in the Universities Quarterly *of August*, 1951.

POSTGRADUATE STUDY IN THE SOCIAL SCIENCES

By B. S. Keirstead

Dow Professor in Economics and Political Science, McGill University

The social sciences at the English universities have traditionally been taught as liberal disciplines, not as narrowly specialized techniques. The comparatively high standards of English school and undergraduate instruction have permitted the attainment, however, of a reasonable degree of professional competence, even in such a technically involved subject as economics. Thus the very excellence of English undergraduate teaching has led to an attitude towards postgraduate study which is in startling contrast to the attitudes prevailing in other countries, notably in the United States. In that country the deficiencies of school and undergraduate training are such that a vast system of postgraduate education has been developed in order to maintain the supply of properly qualified scholars, scientists and advanced technicians. One does not expect to find—and one does not find—in Britain the same emphasis and the same attention given to postgraduate study. There are, of course, opportunities for postgraduate study in the social sciences. The London School of Economics remains one of the world's principal centres of postgraduate study and research. Oxford and Cambridge both accept graduate students and make some provision for them. Nuffield College in Oxford is almost wholly devoted to the needs of graduate students in the social sciences. The other universities usually maintain small research units, and have a few graduate students in residence. Except for London, and possibly Oxford, there is, however, no organized graduate programme in the American sense, and there are probably more graduate students in the social sciences at Harvard or Columbia alone than at all the British universities taken together. In the past, such a quantitative comparison would have been meaningless and irrelevant, because of the different standards of undergraduate training in the two countries and the different needs for graduate work. In this article I wish to suggest some of the reasons for believing that today more attention should be given by the British universities to graduate study in the social sciences.

The first reason is that the social sciences are, like the natural sciences, becoming more complex and technical. Economics, for example, has become a study which includes not only the great liberal literature of classical political economy but also the difficult techniques of modern analysis and many specialized branches. The British universities have refused, properly, in my opinion, to teach economics to undergraduates as a specialized technical subject. Normally it forms part of a liberal " modern greats " type of course, which includes along with economics some history and political theory. The candidate who completes such a course satisfactorily is " well-educated " in a good old-fashioned sense, but he is not a trained economist. To become so he needs one or two further years of specialized study.

Liberal education and the Commonwealth

It may be argued that the proper solution of this problem is to increase specialization in the undergraduate course. This argument is strengthened by the consideration that all male students have now to spend two years in military training and in consequence cannot afford to have the period of professional training lengthened. This argument is not convincing. The dangers of the specialized technician in contemporary society have already been recognized by the natural scientists, who are moving everywhere to liberalize their over-specialized undergraduate courses. Mass education in the schools has thrown a greater responsibility on the universities to provide sound liberal education. It is neither practicable nor desirable to narrow the honours programme in the undergraduate course. Indeed, if present trends in school education are maintained, it may become necessary to widen the honours course. The military service is an unfortunate necessity which lengthens the total period before a young man can take permanent employment. A long view suggests, however, that over the past century both life expectancy and the period of professional training have lengthened together, so that the period of productive activity has not diminished. The adverse effect on the birth rate in the professional classes could be countered by providing for and facilitating the marriage of postgraduate students while they are still in residence.

So far I have spoken only of changes which are taking place in the United Kingdom itself. There is a second reason why British universities might wish to provide increased facilities for graduate

study in the social sciences. The British Commonwealth is a unique political institution. It is bound together, not by common language, common race, culture or religion, certainly not by any constitutional organization, not even, today, by the symbolism of the Crown—not by any of the usual emotional elements which cement the national state, and it is not even united by a common economic interest. It is, perhaps, the most sophisticated political device man has ever created, because what is held in common is a purely intellectual conviction, the apprehension of certain common political and ethical concepts. These concepts have been worked out in practice and theory by the people of the United Kingdom, they have been passed on to the other peoples of the Commonwealth, who have also made their contributions, and the theory of the parliamentary constitution, and all its implicit values of tolerance, compromise and fair dealing, have become a common political faith. The appreciation of these values is the concern of the whole people, but their transfer from the eldest member of the Commonwealth to the younger members, their transfer from one generation to the next, their reassessment and restatement from time to time, and their application to new problems, all these are the affair of an intellectual élite. In the past this élite has been trained, in large measure, in the British universities. The men today who occupy cabinet posts and senior civil service appointments in Canada, India, Pakistan, Australia, New Zealand and South Africa include a remarkably high percentage of Oxford, Cambridge and London graduates. One can see the thing operating at any international conference. It is so intangible that it is difficult to give it a name, define it or describe it. A Canadian who was up at Balliol in 1924 communicates easily and without misunderstanding with an Englishman who was at Christ Church during the same period. The Canadian and British delegations may be "briefed" to take opposing views on a particular issue, to vote in opposite ways in the Assembly, but they do so without heat, anger or misunderstanding, and it is highly probable that long before the matter comes to a vote they can get together in the lobbies and work out a compromise which both can accept. Among the nations of the Commonwealth, with one possible exception, our disputes are good-natured, our agreement fundamental and profound. This good relationship depends, in an important way, on what I have called an intellectual élite. If this class should distintegrate it is doubtful how long the Commonwealth could survive.

In the past young Australians or Canadians who came to Britain to study economics, history, law or political science usually read for an undergraduate degree, even if they already had a degree from one of their own universities. At Oxford, where many of them came as Rhodes scholars, they were encouraged to do this. The dons at Oxford found by experience that Rhodes scholars were not always able to pursue postgraduate studies successfully. Today the situation is changed in three ways. First, very few Dominion students come to Britain for their first degree. The old " colonial " practice of wealthier families sending boys " home " for school or university education has disappeared as the Dominions have become more mature and nationally self-conscious. Second, the quality of university education in the Commonwealth universities has greatly improved. Almost all the people who come to Britain for further training are on scholarships or fellowships, have already completed an honours programme with success, and are frequently competent to go ahead with postgraduate study. Third, the Rhodes scholarships are relatively less important than they were among the scholarship schemes which bring people to the British universities. The Rhodes scholarships have been and remain a unique and imaginative plan, but the scholars are not necessarily selected for their capacity as research students. The basis of selection is somewhat different. Many other fellowship schemes today are directed towards the selection of research students. Last year, the Canadian Social Science Research Council awarded some fifteen fellowships to candidates, all of whom had shown capacity for research. Of these more than half elected to continue their studies in British universities. I cite this example because it illustrates very clearly the attraction of the British universities for young Canadians, *when they are free to elect* where they will study, and because it also illustrates the kind of mature graduate student who will come to Britain if the opportunity to do graduate work is there available.

Thus, while some students from the Dominions will continue to read for undergraduate degrees at Oxford or Cambridge, increasing numbers want to pursue graduate study in British universities and are equipped to do so. If these increasing numbers cannot be accommodated by British graduate schools, they will go elsewhere, probably to the United States. Already it is hard for a good Canadian student to afford to come to Britain to study, when he could so easily win one of the many generous fellowships which are

obtainable at any one of the better American graduate schools. There is no objection to Canadian or Australian students going to the United States. It is desirable that many should do so. But if this becomes the common practice, if the number of Dominion students in history and the social sciences in the British universities becomes an insignificant proportion of the total who pursue advanced studies, the effects on Commonwealth relations may become serious.

The value to the university of the graduate student

There are other reasons why organized graduate study is desirable at a university. These may be touched on briefly. They are familiar to all university teachers. It is a healthy thing for undergraduates to be brought in touch with graduate students, currently engaged in the creative task of research. It is stimulating and often directly helpful to senior members of the university to have graduate students engaging in research which marches closely with their own study and writing. Most of the provincial universities feel the responsibility to engage in research in the economic or social problems of the region in which they exist. Their research groups are in danger of becoming isolated and of doing work of no general scientific interest or significance if there is not also in their university continuous activity in the advanced study of theoretical problems. A good graduate school completes a university department.

If these arguments are accepted, certain conclusions appear to follow. The first conclusion is that British universities should be prepared to accept a larger number of graduate students, both from home and abroad, in the social sciences. This throws a responsibility on the provincial universities. There is grave danger of certain schools becoming too large. One hears of American graduate schools where so-called seminars consist of one hundred or more students, and where appointments with teachers have to be sought a fortnight in advance and cannot last for more than fifteen minutes. One hears of graduate instruction taking the form of lecture courses of an undergraduate sort and at little better than undergraduate level of difficulty. These evils are to be avoided. The graduate school of the London School of Economics cannot grow much larger without beginning to encounter some of these difficulties. Oxford and Cambridge, for special reasons, can expand their graduate work only slightly and with some difficulty, so that if increased facilities are to be offered, the other universities must take a hand.

The second conclusion is that, if graduate study is to be encouraged, financial assistance must be offered to candidates. The universities now have graduate fellowships, but for the most part the value of these fellowships is not sufficient to attract able people who are being sought by government or business. There are also overseas fellowships, but there are not enough of them, and in most cases the fellowships are not within the gift of the university, and the selection of the candidate is made by people who may not always have in mind the qualities necessary for successful graduate study.

The third conclusion has to do with the matter of organization. The British universities are quite naturally fearful of some of the implications of this word. It calls up in the mind the idea of a vast educational machine, in which mass-produced undergraduates are given a further "processing" for three additional years. They "take" five "credits" each year. They do what is essentially undergraduate work, and possibly poor undergraduate work at that, they have a research problem, of no intrinsic scientific interest, set out for them, they accumulate the necessary facts and grind out a dull and uninspired dissertation of the necessary length. At no stage are they obliged or even permitted to think for themselves, to formulate their own problem, or to grapple with difficulties on the frontiers of knowledge. (This picture is, of course, a travesty of any good American graduate school, but the caricature has a sufficient verisimilitude to some of the weaker institutions to illustrate the dangers often associated with the idea of organization.)

To recognize these dangers, however, is scarcely to justify the severe rectitude of many British institutions. In some British universities which accept graduate students, there are no seminars, no arrangements for bringing graduate students together so that they may meet one another and enjoy the stimulation which comes, or ought to come, from association at a period when intellectual maturation is proceeding at a most rapid rate. Students who have been undergraduates at the university and who "know the ropes" with all their peculiar local knots, are able to get ahead with research and know to whom to apply for advice and guidance. While one likes the idea that graduate students should be capable of going ahead under their own steam, of thinking and behaving in a mature manner, it is true, surely, that perfectly capable and competent students may benefit from some guidance. It is perhaps particularly true of students from the Dominions, who frequently approach

one of the great British institutions with awe and diffidence, who are shy and strange rather than immature or incompetent, and who are completely unused to and baffled by the somewhat eccentric manner in which some British universities operate.

One should add to this two much more weighty considerations. The first of these is the importance of mutual stimulation at this stage of study. The small seminar is an essential institution. Research, itself, is a lonely task. The idea of " group " or " team " research seems almost a contradiction of terms, unless one is simply thinking of the gathering of facts. But graduate study, though centred about research, is more than research. It should be the acquisition of mastery in the techniques of the science and of an understanding of the full implications of one's science. It is for this purpose that the seminar is necessary. The other consideration is a corollary of the first. One must guard against the danger of the narrow research topic. A man may elect to make an inquiry of the greatest detail into some severely restricted problem, or aspect of a problem. This inquiry may be a scientifically important one, even though severely restricted. But if this is all a graduate student is required to do, he may miss the full significance of his work, he may even leave the university with an advanced degree, but with no more than the rusty remains of his undergraduate understanding of the fundamental theory of his subject. Some seminar work and some general reading under the informal guidance of a mature scholar are necessary to avert this danger.

The pressure to " professionalize " the undergraduate course has become great in Canada, and will, no doubt, be felt in Great Britain. The main argument in favour of this is the growing technical complexity of some of the social sciences. The natural scientists, who have had this experience earlier, are now seeking to liberalize their undergraduate programmes and to provide professional training at the postgraduate level. From this experience we, in the social sciences, may profit. Moreover, the easy migration of students at the postgraduate stage from one country to another is an important contribution to the community of scholarship. It is especially important among the nations of the Commonwealth. The Commonwealth, in a unique sense, depends on intellectual ties, which are in the keeping, so to speak, of our universities.

THE UNIVERSITY OF GLASGOW 1451—1951

By J. D. Mackie

Professor of Scottish History, University of Glasgow

The University of Glasgow was founded by a Bull of Nicholas V dated January 7th, 1451, which was obtained by William Turnbull, Bishop of Glasgow, with the help of James II, King of Scots. The foundation was made in a century which saw the origin of more than thirty universities and it is tempting to connect the growth of interest in learning with the great movement known as the Renaissance.

A connexion there was, but in Scotland, as in many other places, the connexion was indirect; the object of the pious founders was not so much to promote new conceptions of truth as to defend the citadel of the Church against the gathering legions of doubt and discontent.

The purpose of Bishop Henry Wardlaw who founded St. Andrews in 1412 is very clear ; a statute of 1416 ordained that all graduates must take an oath to combat Lollardy, and the most famous of the early teachers, Laurence of Lindores, a physicist whose works were used in Bohemia, Germany and Poland, was also an " inquisitor of heretical pravity ". Bishop William Turnbull who founded Glasgow had been a student at St. Andrews, and Bishop William Elphinstone who founded Aberdeen in 1495 was an *alumnus* of Glasgow. In Aberdeen, it is true, some traces of the Renaissance appear; but it is significant that all three universities were founded by bishops who were stout upholders of the old faith. How real was the episcopal control may be judged from the terms of a statute of the Scottish church of the year 1549; every ordinary is commanded to adhere to a certain system of theological teaching in " his university, if he has one " or else " within his city and at his cathedral church ".

William Turnbull

The university of Glasgow was the creation of William Turnbull. Turnbull was an able man who, after reading his " philosophie " (*i.e.*, Arts) at St. Andrews, where he rose to be dean of the faculty of arts, had gone on to study canon law at Louvain. Later he had found employment at Rome where he acted as the procurator of the King of Scots, but he had also commended himself to the Pope

and when, after the murder of James I, the relations between the Crown and the Holy See became more friendly, his promotion, both in Church and State, was assured. By 1442 he was Keeper of the Privy Seal in Scotland; in 1447 he was made bishop of Dunkeld, and in the same year he was promoted from Dunkeld to Glasgow. He at once showed himself a vigorous bishop striving to increase the privileges and prestige of his episcopal city and it is no matter for surprise that, with the aid of his royal master who was an honorary canon of Glasgow, he succeeded in establishing a university.

His motive has been variously estimated. He may be credited with an interest in canon law; after 1446 he is referred to as a " doctor of decrees " and he may have obtained that degree from the University of Pavia, though it seems improbable that he did anything like a full course there. It has been surmised that he hoped to provide, in Scotland, the training in law which was one of the avenues to promotion in the church. This was unobtainable in St. Andrews which, though it had ample powers by its foundation Bull, had been unable to teach anything beyond philosophy and theology. It has even been suggested that Turnbull made a sort of " gentlemen's agreement " with Bishop Kennedy of St. Andrews, once his fellow student both at St. Andrews and at Louvain, whereby Kennedy's new college of St. Salvator (1450) should concentrate on theology while Glasgow concentrated on law. This idea has been supported on the ground that the foundation Bull, while it permitted teaching in every lawful faculty, specifically endowed the new university with all the privileges of Bologna. The great probability, however, is that Bologna was mentioned because it was a very honourable university of which Pope Nicholas was an *alumnus*, and the terms of the document make it obvious that the donor had not in his mind to create a university under a " student rector " as has sometimes been supposed. The Bull says quite definitely that the Bishop and his successors are to enjoy, with the title of Chancellor, all the authority of the *rectores scolarum* at Bologna.

Turnbull used the power given him to establish a university on the model of St. Andrews and of the French universities from which St. Andrews had taken her constitution. If he had really meant to concentrate upon law, and of this there is no evidence, his hopes were frustrated ; but if, on the other hand, his main idea was to dignify a see which had always tried to rival St. Andrews, then his

design succeeded. He produced a small, not incompetent, university from his own resources and under his own control.

He had at his disposal considerable prestige, ecclesiastical revenues and buildings, some patronage and a numerous clergy. His chapter boasted thirty-two or thirty-three canons ; there were almost as many chaplains to serve the altars of the cathedral church, and there were also vicars-choral to perform the duties of the choir. In the city were houses of Grey Friars and Black Friars, the latter in very close connexion with the cathedral church. For the education of the clergy the bishop must have maintained some machinery, probably a theologian and a canonist at least ; there is a hint of a pedagogy for the vicars-choral, and there must have been some arrangement for the instruction of novices. None the less, the granting of the Bull was a matter of the first importance. Henceforth the students who completed their training at Glasgow would go forth with a *licentia docendi* which was valid throughout the whole of Christendom.

Students and masters

Many of the first students were clerks, some of mature age, but the fact that no fewer than sixty-seven men were incorporated argues that the idea of a university was popular, and some of the undergraduates are not dignified with ecclesiastical titles. None the less, it was mainly from the clergy that most of the first students and all the teachers were recruited ; all the teachers and many of the students were maintained by clerical revenues ; it was in the cathedral or in the Blackfriars house that the first meetings of the university were held. From the confines of the church and the priory the faculties of theology and canon law never really emerged. Whether it was the founder's intention to establish a college for Arts is uncertain; he died before he made any permanent endowment at all and from its initial poverty, in this regard, the university has never quite escaped. It received minor benefactions in the form of chaplainries, and its masters and students enjoyed the benefits of patronage, but the position of the university remained insecure.

It struggled along, however, maintaining its institutions in the proper way, honouring its rectors, annually elected by the votes of the four traditional nations, and preceded, when he walked abroad, by the handsome silver mace which was perfected in 1490. Above

all, it gave degrees to students who had completed the appointed curriculum.

The Arts college

Meanwhile, however, there had arisen inside the university an institution of greater solidity. This was the college of the Faculty of Arts which began upon a small site in the High Street between the Cathedral and the Blackfriars, but outside the precincts of both. Strengthened by the gift of the site from the first Lord of Hamilton in 1460 and of an adjoining plot a few years later from an *alumnus*, the college gradually acquired some simple buildings of its own. As almost the only degrees given were in Arts the faculty was enriched by the few fees which were paid, and it developed, under its dean, an organization which corresponded to that of the university under the rector. Its position became stronger since, after the first flush of enthusiasm, most of the undergraduates were boys to whom a collegiate discipline was not inapplicable. The faculty, in short, was the essential core of the university and to this day, in popular parlance, the words " college " and " university " are used almost interchangeably. Yet must it be emphasized that the framework of the university persisted ; for it was the university, and not the college, which could grant degrees.

As the old Church staggered to its fall the position of the university became most precarious. It enjoyed a brief measure of prosperity when, in 1518, Archbishop Beaton brought the famous John Major from Paris to act as professor of theology. Beaton, however, in 1523, summoned Major to St. Andrews whither he himself had been translated, and with Major's departure the university suffered from the decline which was common to all ecclesiastical institutions at that time.

The Reformation crisis

When the Roman Catholic church collapsed in the cataclysm of 1560 the university nearly perished too. It lost its revenue, its officers, its patron and at one time even its mace, which was taken to Paris by the chancellor, Archbishop Beaton. From the nobles of the reformed church it got very little in way of compensation ; the vast design for a national system of education enshrined in the *Book of Discipline* came to nothing. Yet that design is of importance not only for its intrinsic merit, which was great, but also because it embodied the conception that education was not a local affair

or an affair of caste, but the birthright of every Scotsman. Little of this grand conception appeared in the small college of Glasgow which somehow struggled on supported by small portions of the old ecclesiastical wealth conveyed directly and indirectly by Queen Mary and the magistrates of Glasgow. Deliverance came, as often it does in such cases, at the hands of a great man. In 1574 Andrew Melville was sent by the General Assembly to be principal of the college of Glasgow, and by his great learning, his daemonic energy and his utter fearlessness, he redeemed the situation in the course of six brief years. Something he owed, no doubt, to his friendship with George Buchanan, who stood well with the hard-handed Regent Morton, and the result of his efforts was threefold. The college obtained, in 1577, a small permanent income from the parish of Govan ; it received a new constitution, the *Nova Erectio ;* above all, it gained a reputation as a home of good learning which, in spite of some periods of misfortune, it has never lost.

The *Nova Erectio* was essentially the constitution of a small college presided over by a principal or " gymnasiarch "; but in retaining the offices of chancellor, rector and dean of faculty it kept the skeleton of a university and still remained an institution which could give degrees.

Civil war and restoration

Melville's successors in the office of principal were competent men and good scholars, but before long their position was complicated by the duel between Presbyterianism and Episcopalianism which marked the reigns of James VI and Charles I. In spite of the difficulties the university continued to thrive, and in 1631, under Principal Strang (a moderate man who managed to retain his post after Episcopacy fell), embarked upon a great project of building. This was interrupted by the civil wars which followed the signing of the National Covenant in 1638; but although in the two decades following the university passed beneath the sway first of the General Assembly and later of Cromwell, it still contrived to flourish in a modest way. Patrick Gillespie (1653–1660) was the first principal of the " managerial " type. He spent much time in London and did not distinguish himself as a teacher ; but he succeeded in extracting much money from the government, not only from the spoils of the Church but also from the civil revenue. Much as he got, he spent more, and when he was driven from office he left a

large debt behind him. He left also, however, virtually complete, the lovely college in the " Scottish baronial " style which ornamented the High Street of Glasgow until 1870.

Under the renewed episcopacy of the Restoration the university fared but meagrely; it was deprived of much of its clerical income, and it was torn by internal dissensions, since some of its students favoured the Covenanters and even the supporters of episcopacy found some of the new archbishops—not Archbishop Leighton—arrogant upstarts.

With the " Revolution Settlement " of 1689–90 prosperity returned. The dismissal of the Jacobite principal and two of his colleagues was effected with gentleness and politeness; the fact that the new principal Dunlop was a close kinsman of the powerful Carstares facilitated the transition; the cooling down of religious animosities ushered in an era of growing toleration.

Eighteenth century expansion

The toleration was not complete—in 1729 a professor of divinity was ousted by the General Assembly upon the suspicion of heresy—but though the college retained its close connection with the kirk it relied more and more on the patronage of the state to which it commended itself by its firm adherence to " Hanoverian " principles. With the aid of the Crown fresh chairs were endowed. The faculty of Arts or Philosophy was enriched by the creation of chairs in Mathematics, Greek and Humanity (Latin); in 1727 separate chairs in Logic, Moral Philosophy, and Natural Philosophy took the place of the three old " regencies " whose holders had taken successive years of students through the whole course of " Philosophy "; with the appearance of the chair of Practical Astronomy in 1760 the faculty of Arts was equipped with seven " subjects " which recalled, in a vague way, the old *Trivium* and *Quadrivium*. (To this day seven subjects are demanded for an M.A. degree in all Scots universities, though it is usual to offer five subjects only, two of which are taken again on a higher standard.) Other faculties developed too. The Chair of Divinity was supported by new chairs in Oriental Languages and Ecclesiastical History. A professor of Law was appointed; and the appearance of chairs in Medicine and Anatomy (which took Botany with it till 1818), presaged the growth of the great Glasgow school of medicine. Chemistry, Materia Medica, and Midwifery were in the eighteenth century represented only by lectureships.

Among the holders of the new chairs were men of the first force, Francis Hutcheson, Adam Smith and Thomas Reid in Philosophy, Robert Simson in Mathematics, Moor in Greek, Richardson in Humanity, Cullen and Black in Chemistry and Medicine, Forbes and Millar in Law. All were great men. In James Watt, " Mathematical Instrument Maker," the university found the man who could turn to practical use the theories of Black and his confrères, while the Foulis brothers, whose press was housed in the old college, were renowned throughout the world for their " immaculate " printing.

There is another side to the picture. The academic life of a most brilliant period was marred by the evils of nepotism, by the petty jealousies which vex a small society, and by the unworthy attempts to secure power which so often declare themselves in close corporations. Professors, appointed by patronage in many cases, tended to regard the chairs as their personal possessions, and clung on to their very handsome houses and their fees (in certain classes very large) long after they had reached the age of retirement; they claimed, too, a very loud voice in the appointment of their successors.

The coming of reform

When the nineteenth century dawned the principal and the professors of the thirteen chairs styling themselves the " faculty " claimed the sole right of administering the revenues of the college in which they had been secured by a decision of the Court of Session in 1771. This was a serious matter because, with the large increase in fees and the unearned increment of properties in a growing community, the financial position of the college was now prosperous. Both from inside and from outside the university came the criticism that a ruling clique was turning all to its private advantage, and the climax came when, early in the nineteenth century, five new " regius " chairs in medical subjects were created. The existing professors, anxious to maintain their monopoly, argued that the new professors might be members of the university meeting or " senate ", but were not members of the faculty or " college ".

In other universities the action of the monopolists, who feared lest the introduction of new subjects would diminish their own fees, was having bad results, and the bankruptcy of Edinburgh (which, as the " tounis " college, had its finances mingled with those of the city), brought matters to a head. In 1826 there was appointed a strong royal commission, which was renewed in 1830 on the

death of George IV ; the evidence collected by this commission is a mine of information as to the history of the four universities and its report was marked by sterling common sense.

No action followed at once upon the Report, since, owing to the political upheavals which followed the passing of the Reform Act of 1832, the academic world faded from the public interest for some time; but in 1858 an act of parliament gave to the four universities of Scotland constitutions which, in spite of some local variation, were essentially uniform. This act was modified by the act of 1889 according to which, and to the derived ordinances, the Scottish universities are now governed.

The general effect of these acts was to put finance and administration into the hands of a composite " Court " upon which the various elements in the university had representation; to confirm the academic body or " senate " in its traditional supervision of teaching and discipline; to give it a strong representation on the court ; to establish a general council of graduates which should elect not only representatives to the court but also the Chancellor who might appoint an assessor to the " Court "; and, finally, depriving the teachers of an old right, to give to the students alone the right of electing the Rector who could not only preside over the " Court " himself but also nominate an assessor.

Critics point out that this balancing of powers destroyed, to some extent, the corporate entity of the university, and suggestions for improvement have been made. Nonetheless, experience has shown that the system has worked well. Secure both in its old tradition and in its new advantages the University of Glasgow has gone from strength to strength. It has now six faculties, sixty-four professors and nearly seven thousand students. Recently it has cast its mantle over dentistry, veterinary surgery, and agriculture, and its teaching is done partly in the attached hospitals and attached colleges. Meanwhile, at Gilmorehill, whither the university transplanted itself in 1870, there has developed a group of building conspicuous alike in their site, in their size, and in the great variety of their functions. Glasgow still excels in Classics and in Philosophy but she is splitting the atom now.

SOCIAL SURVEY

By D. Caradog Jones

Sometime Reader in Social Statistics, University of Liverpool

In the Stamp Memorial Lecture of last year Sir Edward Bridges, Permanent Secretary to the Treasury, attributed in part the failure of the Economic Advisory Council, formed in 1930, to have any considerable influence on Government policy to lack of agreement for some time among economists themselves. Greater success has attended another official body which stole unobtrusively into being in the early days of the last war. It is called the Social Survey and it is now firmly established as a technical division of the Central Office of Information.

It arose in the first place from a sense of urgent need. The Government wanted accurate information quickly on a wide variety of social matters, in order to make the best use of the country's resources under war conditions. Since then it has proved of value in one way or another to nearly every Government department, and it has developed into a highly important and efficient organization capable of new experiment in social research.

Nature of investigations made

There is no space here to do more than mention a few of the many enquiries conducted by the Social Survey as examples of work done. During the war years, when the Government undertook responsibility for meeting all the essential needs of the civilian population as well as the armed forces, housewives were periodically interviewed in order to test the rationing and coupon system for the distribution of food and clothing, and to discover whether extra rations or coupons would be justified for special types of worker. Further studies were made when the war drew to a close to determine appropriate demobilization coupon allowances and to estimate the supply of clothing needed to meet these new demands, and again, subsequently, to decide how soon it might be practicable to end the rationing of clothing and coal, having in mind such factors as changes in habit which had resulted from the continued use of controls, improved alternative methods of heating, and the possible effect on the import and export position of any relaxation of controls.

Profiting by experience gained of conditions following the first world war, the Government had resolved at all costs to avoid a

repetition of widespread unemployment after this last war. They had learned, by various fiscal devices and the regulation of prices, how to vary the amount of money in the pockets of the people so as to avoid extremes of inflation and deflation. The Social Survey is adding to the limited knowledge which is now made available, in the annual White Paper on *National Income and Expenditure*, by a series of sectional studies of the spending habits of the public. This will supplement the over-all picture to be obtained by a nation-wide collection of household budgets, such as was made in 1937–38 and which should be revised as soon as conditions are favourable for a determination of the post-war cost of living.

Other examples of recent reports prepared by the Social Survey are concerned with rural depopulation and mining communities in Scotland, discussing in particular the attitude of the miner to the industry; children and the cinema; recruitment to the Civil Service; the demand for hearing aid appliances; studies of diet and nutrition; and significant factors in the design of houses, such as the efficiency of various systems of lighting and heating, for the guidance of local authorities. In short, the value for administrative purposes of the researches carried out by the Social Survey is becoming increasingly recognized.

The method of the survey is to interview samples of persons chosen at random. This can be done by picking out a suitable proportion of names in strict rotation from the files in food registration offices according to the size of sample desired, which may be anything from 2,000 to 10,000. Nobody who has made a serious study of random sampling now doubts the possibility of getting by it a true picture of the " universe " from which the sample is taken; but some years elapsed before Government officials became convinced of the reliability of the method.

In social research, where the human element is the most important factor to be brought under control, pure theory and practice seldom keep strictly in step. In any randomly chosen list of individuals there will always be some who cannot be traced at their recorded addresses. They may have died or moved away. Others are chosen in their place on the same random principle. The purpose of these substitutions is to make sure of attaining the full quota of completed schedules. Again, some persons will refuse to be interviewed. The Social Survey claim that the proportion of refusals reported by their investigators is very small.

Team work in surveying

Social surveying by a private individual, himself responsible for almost everything from start to finish, is now comparatively rare and it is limited in what it can accomplish. Collection and analysis of data relating to thousands of households is a large-scale operation, and it calls for team work of a high standard to produce successful results. As with the changeover from home craft to factory production, new complications arise. The person who plans the enquiry and is responsible for its conduct may be likened to the managing director in industry. He must have the different stages always in mind, and he must so shape their course that each operation fits neatly into the pattern designed for the whole. Under him will be the heads of different sections, expert in sampling, in the preparation of questionnaires, in the supervision of field workers, and in the coding of answers to questions, so that they can be correctly punched on to cards designed for running through machines which sort and tabulate the material. Exceptional qualities of leadership are needed to hold the team together and the correct timing of operations is a vital element for effective co-ordination.

Purists have expressed the view that enquiries on this scale should be confined to questions of fact about people, their habits, and their environment. It is certainly simpler to establish facts than it is to ascertain opinions. But it is also important that administrators should know how the public are likely to react to any proposed change, such as the building of a new town in their vicinity, and on many matters of that kind no difficulty is experienced in getting straightforward opinions. Trouble only arises when opinions are liable to sudden change or when questions of motive are examined. Such questions do call for a different technique.

Danger of being driven by the machine

If persistent pressure is exerted to keep up with a time-table, it is a temptation to continue to apply the same methods without variation to all enquiries, once they have been found to work satisfactorily with two or three. The scientifically minded, however, will always be on tip-toe to develop new ideas and they will test their methods thoroughly at each fresh application. While it would be a mistake to run every survey into the same mould, it is necessary, for the sake of compatibility with the results of related enquiries, to standardize definitions and systems of classification as far as possible.

The Survey staff are not able to make as much use of the data they collect as they would wish. The administrative machinery sets the pace and hurries them relentlessly along. That is the price paid for service which is evidently appreciated, or the demand for it would not continue. But the public is entitled to ask whether the price is not too high. Might there not be great advantage in the long run if, by more collaboration with other Government departments, and even with private bodies of repute, fuller use could be made of the Survey material?

An example of possible official collaboration can be readily suggested. The Ministry of National Insurance collect extensive statistics concerning the health of the people as a daily routine. The Social Survey also assemble data relating to sickness month by month from random samples of the population. If regular consultation took place between these two bodies with a view to the co-ordination and more effective analysis of their records, their value would surely be increased.

Again, young and vigorous graduates on the teaching staffs of universities frequently feel frustrated because they lack the means to obtain suitable material for social research on a large enough scale.

These and others who have proved their competence can be granted access, with proper safeguards, to Social Survey material if application is made through university librarians, but this privilege is not as widely advertised as it should be.

Some of the reports issued by the Social Survey have been criticized on the ground that they were only of ephemeral interest, hardly justifying the expense incurred. This was perhaps more true in the past than it is now. In any case it is only fair to point out that the Survey staff do not themselves initiate the enquiries they make, and blame only attaches to them if the conduct of any enquiry has been at fault. At present they get less healthy criticism than they might, because their reports have not been generally available to the public. There seems to be no valid reason why most of them should not be on sale as Stationery Office publications. The staff would also stand to gain by this, for their work deserves to be better known than it is.

Future of the Social Survey

It is open to question whether it has been wise to associate the Social Survey with the Central Office of Information, for it is

liable to give the public the mistaken impression that it is an instrument for Government propaganda. As already explained, its purpose is quite different; it is to conduct investigations, in the main factual, which shall contribute to the efficient formation and administration of official policy, and there has never been the least suspicion that the Social Survey reports have been other than impartial.

A department of Government related to the Social Survey, in that it is responsible for collecting social information of fundamental importance, is the Office of the Registrar General. Incidentally, the sampling method favoured by the Social Survey is admirably adapted as a supplement to the taking of a census. It should be possible for these two complementary but autonomous departments to work in closer unison. By such collaboration better use could be made of the invaluable decennial census material and the continuous records of birth, marriage and death which it is the function of the Registrar General to keep and to analyse. As things are at present much of this material is out of date by the time it reaches the public. The Social Survey ought to occupy a more central position—related possibly to that of the Central Statistical Office, if the heads of Goverment departments are to be familiar with its work and if the director of the Social Survey is himself to know the social data they need.

Local authorities frequently require to know the answers to questions which affect the conditions of living of the people for whom they are responsible, and they have at present no way of discovering the answers except by direct enquiry. As an official unit designed for such investigation the Social Survey is an organization unique of its kind. If there were not such constant pressure upon its services by Government departments, they might well be put at the disposal of local authorities also. There is precedent for this in an investigation made for the Willesden Borough Council at the request of the Ministry of Town and Country Planning.

Universities and other bodies, such as *Political and Economic Planning*, that have a well-earned reputation for the social studies they have published, might be glad to make use of the Social Survey for field work in new research projects. This development is taking place. One example of such collaboration may be mentioned. A Nuffield Research Unit, centred at the London School of Economics, engaged upon a long-term enquiry into the chief factors

responsible for social class differences, was anxious to make an extensive study of changes in occupation and in educational opportunity, as reflecting class differences, from one generation to another. The Ministry of Labour was at the same time interested in the subject of occupational mobility and related social factors. Accordingly a questionnaire was designed to produce the information desired by both bodies at one interview, and a random sample of 12,000 individuals was interviewed for this purpose by Social Survey investigators.

Technicians in Government departments often feel somewhat isolated from their professional colleagues and anything which promotes intercourse between civil servants and university teachers on subjects in related fields of study is to be welcomed. In the same way workers engaged in research for local authorities and reputable unofficial bodies might be glad of the opportunity of consulting experts on the Social Survey staff about technical points arising in the planning or execution of social enquiries. The lack of openings for such consultation and discussion is frequently deplored.

Looking to the more remote future it would be a great boon if additional social research units, similar to the Social Survey, could be set up in the more thickly populated provincial areas, centred preferably in the neighbourhood of universities, to ensure the availability of experts capable of directing research schemes. They should not all be under Government control. Some might form an integral part of the universities, associated with departments engaged in teaching the Social Sciences. They would supply a much needed testing ground for social and economic theory. In a changing world it is essential from time to time to re-examine the foundations of even long-established theoretical structures.

In more than one university there is already the nucleus of a social research unit, but few have yet been able to afford the expensive machines and the diversified technical staff which could put them in a position to compete in output with the Social Survey. One difficulty is that they can hardly rely on a steady stream of enquiries to justify the necessary financial outlay. We are thus driven again to urge the desirability of regular and close collaboration between Government departments, local authorities, and universities, so that material for research can be shared among those competent to use it, thus avoiding the dilemma of some with too much and others with too little.

UNIVERSITY LIBRARIES IN THE COLONIES—II

An Interim Report

By Richard Offor

Library Adviser to the Inter-University Council for the Higher Education in the Colonies

Position of the library

A central site is of profound importance. The library itself should be readily accessible, especially from science departments. It is perhaps more pressing for science laboratories to be near the central library than for arts departments which look upon the library as in a sense their laboratory, for science research workers and students are often tied to laboratories and lecture rooms for nearly the whole working day. Not only should the hours of library opening be as liberal as possible, but the science books should be near the entrance for quick reference. The arts student makes his abode in the library for lengthy periods, but the science research worker may have to rely on frequent and hasty visits. The alternative of housing all the important science periodicals and books in the respective departments is open to grave objections: this is an old and much debated question. The boundaries between science subjects seem to be now more blurred than was once the case: chemistry, physics, mathematics, greatly overlap: I knew an electrical engineering professor who wanted his section to be placed next to physics. If a student or a teacher has to enter another department, my experience is that he often feels he must tread lightly as if outside his own territory. I am sure that it is not a good thing for the main portions of an important science subject to be so placed that the librarian has little effective control and ordinary readers find their access seriously limited. Yet this can and does occur. Out of sight is out of mind and a piecemeal distribution of large numbers of books is a sad deterrent to the kind of individual we want to encourage, who loves to browse freely in all sorts of directions.

Of course, one knows that of old, librarians may have sat on their books in such a way as gravely to imperil reasonable access. If a "campus" occupies a square mile or so, than some remote departments must have a modicum of reference books in their own

buildings. Duplication of a few important sets of periodicals, such as we had for chemistry at Leeds, should in time be possible, for instance such laboratory manuals as Beilstein must be in the chemistry department. But we need to be reasonable: hardship is involved in too exclusive a policy either way. I have known professors who have piled up books in their departments either because they themselves thought they might occasionally want them or from sheer megalomania. In the university the library may be the chief common meeting place.

Circumstances in the Colonies must vary. The larger the university area, the more the library may have to be split up, but happy is Gordon College, Khartoum, where a restricted site and a central position have enabled concentration under an able administration, or the West Indies, where in a larger area a like position yet obtains. A professor is not a librarian: the security and the accessibility of valuable books are often not uppermost in his mind. In one important British university, it was decided to close a departmental library because all the books had disappeared !

Staff

Efforts to appoint experienced men and women have been unceasing though not easy. It is hoped that persons of the right calibre will be found to justify senatorial rank and emolument. In the West Indies Mr. H. Holdsworth has profited by experience at Leeds and in South Africa and by a grant from the Carnegie Corporation which enabled him to travel in the States and in Europe. His chief assistant is a Jamaican, and he has English, British Guianese and Chinese on his staff. Mr. W. J. Harris at Ibadan was Librarian of the University of Otago, has travelled widely, and has a British deputy with New Zealand experience, and two other senior assistants. Miss Walker (Gold Coast) was once at King's College, London, and was Librarian of the Ministry of Town and Country Planning. Two of her senior British assistants have had experience in the West Indies, and one in an English Public Library. Miss Larter, at Makerere, has an assistant who is a graduate of Stellenbosch. Michael Jolliffe at Khartoum has a senior assistant once at University College, London. Malaya and Hong Kong are now needing fully qualified university librarians.

Thus the Dominions and the Colonies have shared in this personal task and every effort is being made to train local assistants. I met

an admirable porter of African descent at one place. It will take time to train suitable men and women who have the skill and, one must add, the energy to become efficient and enthusiastic librarians. Frequent replacements may be necessary. In the meantime chief librarians have to devote much more time than they would do in this country to wasteful checking of routine details. With the interest of the British Council in public libraries, training schools should be set up in course of time. Willynilly, each university and college library will have in time an important part to play in the general library interests of the whole Colony. It is earnestly to be hoped that the fight British university librarians are making for the supreme necessity of cultural standards as at least equivalent or superior to qualifications in technical librarianship will be stoutly upheld.

Microfilms

The creation of new universities involves heavy expenditure on periodicals and books at a time when these things are either not to be had or can only be obtained at exorbitant prices. One of our Colonial institutions, for instance, spent £30,000 in each of these last two years in this way, and the annual ordinary expenditure is usually not less than £3,000. Whilst a fine library can thus be built up, it is clear that there are serious limitations. Complete sets of many British, American and European periodicals may not cost much less than £1,000 each. It is essential to acquire the chief ones though even this must take time, but the number of minor journals and series that may be required is legion.

It is clear that research workers going out to distant Colonies must be able to carry on their work; also, they are required to investigate local problems that claim consultation of all kinds of out of the way articles. Especially in medicine and biology have we had numerous urgent requests for such publications. Efforts to obtain them or to procure microfilms through normal channels had involved delays of two to six months, a very serious matter indeed. It is a source of satisfaction that the Inter-University Council's office has been able greatly to expedite procedure, so that films may be secured and sent out by airmail in a week or two. A main difficulty is location, for union catalogues of periodicals are now seriously out of date. It is earnestly to be hoped that BUCOP, the British Union Catalogue of Periodicals, will appear in a new edition before long: Mr. Stewart, late of Bermondsey Public Library,

is hard at work on this at the British Museum now, but his task is a heavy one. As matters stand neither the National Central Library nor ASLIB can always locate wanted periodicals without tedious procedure, anxious as these bodies are to supply films, and so the Council is fortunate to have direct access to important libraries and the ready co-operation of their librarians. Foremost to help have been the Royal Society of Medicine, the University of London, and University College, London. The first speedily supplies microfilms of anything in its own library or of periodicals which we can send it. The University of London has again been a fairy godmother through the Library's microfilm and photostat installations in the basement of the Senate House. University College is a great stand-by: it is just across the road from Gordon Square and is the writer's own College whose resources are well known to him, so that a science periodical can be obtained speedily and sent at once for microfilming at a relatively low cost. The British Museum, the Natural History Museum, and the learned societies come to our rescue in cases of emergency. The University of Leeds is a natural source of help, whilst the Universities of Liverpool, Edinburgh and Glasgow, King's College (Newcastle) and the Birmingham Public Library all provide instances of ready co-operation.

The microfilm is not the last word, nor the photostat, especially the latter, which is expensive for long articles that must go by airmail. The American microcard is more handy to manipulate, cheaper and can easily be classified. This, however, is only practicable where a microcard of a whole set, such as Beilstein, may be secured for permanent use, and where copyright problems can be solved.

Some miscellaneous points

In remote countries self-dependence in many things is necessary, even in the big cities, let alone in a college area miles from a town. Thus a college *bookshop* where there is a well displayed stock under the supervision of an intelligent and sympathetic manager is desirable. This may not be a cheap proposal, but it is essential that students should have the opportunity of inspecting and purchasing volumes they need.

Then in most cases books must either be sent to Great Britain to be bound at great expense or they may experience rough treatment by a local binder. The Gold Coast has found a useful bindery at a

CAMBRIDGE UNIVERSITY PRESS

The Literature of the Spanish People

GERALD BRENAN

A personal and persuasive account of Spanish literature from Roman times to the present, a connected narrative, an inducement to further reading, rather than a reference book. By the author of *The Spanish Labyrinth*.

40*s. net*

Greek Literature for the Modern Reader

H. C. BALDRY

An account, in plain language, of the main achievements of Greek writers from Homer to Theocritus, set against their proper historical background. All quotations are in translation, and knowledge of the ancient world is not taken for granted.

About 15*s. net*

The Origins of European Thought

R. B. ONIANS

The full title of this work is 'The Origins of European Thought about the Body, the Mind, the Soul, the World, Time and Fate. New Interpretations of Greek, Roman, and kindred evidence, also of some basic Jewish and Christian beliefs'.

45*s. net*

Latin Elegiac Verse

MAURICE PLATNAUER

A statement of the practice of the surviving Augustan elegists in their versification, their prosody, and certain points of word order and idiom, addressed mainly to university teachers and scholars.

15*s. net*

Mission in Togoland, but all are faced in time with the installation of a *bindery* of their own. A little hut I saw at Mona, hard by the College Library, was staffed by skilled coloured men and women and was producing for the College and the Jamaica Library Service economical results. Other places have taken similar action. Ibadan has not only a bindery but also a *printing* department; in time such a department might print accessions lists in a more readable form than in the rather ponderous cyclostyled fashion. As it is, a number of colleges issue typed lists of accessions which are of great use.

The Inter-University Council is in contact with UNESCO and important general benefactors should be mentioned. Reference has already been made to the Carnegie Corporation of New York, through whose grant the work of the Library Adviser is possible. The Corporation has also given timely aid to three of our institutions in acquiring the Library of Congress Catalogue, the greatest national library catalogue in the world. Next the British National Book Centre, annexed to the National Central Library, and the Wellcome Historical Medical Library have contributed from their duplicate stocks to a number of the libraries with which we are concerned. The University of London from its Travelling Libraries has presented a thousand volumes to our Colonial universities and colleges.

Before this article appears in print, the writer will have made a trip by sea to Mombasa, thence to Nairobi and to Makerere College, Uganda, where he hopes to see the results of the strenuous work of Miss Julie Larter, the College Librarian, and her staff. After that he will go by air to Khartoum where Mr. Jolliffe has bravely and successfully tackled many difficulties.

To conclude, most of these libraries will usually be in fact, if not officially, national libraries in their respective countries: at Ibadan the Library already has the copyright privilege. Other places are following up this idea also. The University College of the West Indies is a deposit library for the government publications of all our Caribbean Colonies. Thus, whatever happens, in the few years that have elapsed since the last war great libraries have sprung up that must have a profound influence outside as well as inside their own domains. It remains for our universities to continue the encouragement and practical help so willingly displayed from the beginning.

The first part of Dr. Offor's article appeared in the Universities Quarterly *of August*, 1951.

SOME RECENT OXFORD BOOKS

THE OXFORD DICTIONARY OF NURSERY RHYMES
Compiled by IONA and PETER OPIE. Illustrated. 30*s. net*

ALCMAN: THE PARTHENEION
By DENYS L. PAGE. 21*s. net*

SOURCES FOR GREEK HISTORY
Between the Persian and Peloponnesian Wars.
Collected and arranged by the late SIR GEORGE HILL.
A new edition by R. MEIGGS and A. ANDREWES. 30*s. net*

ARISTOTLE'S SYLLOGISTIC
From the Standpoint of Modern Formal Logic.
By JAN LUKASIEWICZ. 15*s. net*

PRINCIPLES OF SOCIAL AND POLITICAL THEORY
By SIR ERNEST BARKER 25*s. net*

AN INTRODUCTION TO APPLIED MATHEMATICS
By J. C. JAEGER. 35*s. net*

FINITE MATRICES
By W. L. FERRAR. 17*s.* 6*d. net*

THE STUDY OF INSTINCT
By N. TINBERGEN. 25*s. net*

(*All prices are subject to alteration without notice*)

OXFORD UNIVERSITY PRESS
Amen House, London, E.C.4

REVIEWS

THE ENGLISH UNIVERSITIES AND ADULT EDUCATION. *By* S. G. RAYBOULD. (*Workers' Educational Association*, 7*s.* 6*d.*)

Mr. Raybould is one of the comparatively few people engaged in adult education who think about it, and consider its general position, and what its future ought to be. He has already published a book about the Workers' Educational Association called *The Next Phase*, and he has now turned his attention to what the universities ought to do.

The definite proposals he has to make are that the universities should confine themselves to work of a university standard, and should therefore give up undertaking terminal courses. He points out—I think quite rightly—that it has always been agreed that the best work of a tutorial class comes in its third year. This means that if you are to get work of a university standard in adult education it cannot be done in less time than a tutorial class. What this amounts to I suppose is that the decision to allow universities to organize short classes was mistaken, and that those interested in adult education should not have given in to Nottingham and the persuasive Professor Peers. Mr. Raybould wants universities to retrace their steps, and go back to the old distinction where universities organized and took responsibility for tutorial classes and left the shorter courses to be organized by voluntary bodies—in effect largely by the Workers' Educational Association.

There is not much hope, I think, of all universities acting on Mr. Raybould's advice.What he wants could only be brought about by a revision by the Ministry of its regulations. Mr. Raybould is inclined to say that it is not enough for the universities not to do work for which they are ill-fitted. It is not their business how the elementary and pioneer work of adult education should be carried on. But he considers the problem enough to say that if the Workers' Educational Association, or any voluntary organization, is to do the more elementary work, this work will have to be properly financed. One reason—he points out—why the universities have sometimes been encouraged by the Workers' Educational Association to take on the more elementary work, is that the Workers' Educational Association cannot afford to do it.

The real interest of the book is not just its advocacy of this particular proposal, but the extent to which it discusses the whole problem of adult education in the changed circumstances of the present time. There are two rather different considerations about

WITWATERSRAND UNIVERSITY PRESS

MILNER PARK, JOHANNESBURG

The South African Drawings of William J. Burchell (scientist and artist, 1781–1863).
I—The Bachapins of Litakun: collotype reproductions with descriptive text; limited edition. By H. M. McKay. 1938. £4 4s.
II—His Landscapes. *In the press.* £12 12s.

Race and Reason.
1945. xxxvi, 182 pp. 8s. 6d. *and*

South African Native Policy & the Liberal Spirit
1945. xiv, 190 pp. 8s. 6d.
Both by R. F. A. Hoernlé, late Professor of Philosophy at this University.

The Uniform of Colour.
A study of White-Black Relationships in Swaziland. By Hilda Kuper, sometime Lecturer in Social Anthropology. 1947. xii, 160 pp., pls., map. 15s.

The Native in South Africa.
By L. Marquard; 2. ed., rev. by Julius Lewin, Lecturer in Native Law and Administration. 1948. x, 93 pp. 7s.

Zulu-English Dictionary.
By Professor C. M. Doke and B. W. Vilakazi, late Senior Language Assistant, Department of African Studies. 1948. xxvi, 903 pp. £2 5s. plus postage. London Distributors: Kegan Paul, Trench, Trübner & Co., Ltd.

Language at Work.
By J. Y. T. Greig, Professor of English; 2. ed. repr. 1948. 260 pp. 10s.

Dinner at Trimalchio's.
An Extract from the *Satyricon* of Petronius Arbiter; transl. by G. J. Acheson. 1950. 72 pp. 5s. 6d.

The Survival of Political Man.
A Study in the Principles of International Order. By E. E. Harris, Lecturer in Philosophy. 1950. xi, 225 pp. 20s. plus postage. London Distributors: Simpkin Marshall.

Fractures and Fracture Treatment in Practice.
By Kurt Colsen, Department of Surgery; 3. ed., rev. 1949. 3 l., 155 pp. illus. 15s. London Distributors: Percy Lund, Humphries & Co., Ltd.

what makes possible the university standard in adult education. One is that it takes time, and that you cannot get anything like a university standard unless students attend classes for at least three years. The second is concerned with the subjects studied. Mr. Raybould notices that in Social Studies such as—notably—Economics and Politics, working class students have something to contribute from their own experience as important as—if not more important than—what the younger students can possibly get from whole-time academic study.

My own view about all this is that the more one considers the present situation and Mr. Raybould's book about it, the more the conclusion seems to be that Mr. Raybould's solution is too simple, but it is not easy to see what ought to be done. The facts that made for the very great success of the tutorial class movement 40 odd years ago were, among others, that there were in England—though not in Scotland—a fair number of working men who would nowadays be caught by the machinery which looks after the able boy, and would be given a university education. Many of the ablest students in the early tutorial classes were men who ought to have had—and would under present conditions have—grammar school and university education. The greatly superior standard of our schools in Scotland at that time was largely the reason why the tutorial class movement never had the same success in Scotland that it has had in England. The enormous strides in secondary education in England have changed that picture. Secondly, in the early days of the tutorial class movement the Workers' Educational Association was very largely the educational wing of the Labour Movement. The motives which gave it a drive and pressure such as it has not got now were largely political. Able men in the Trade Union Movement found that they were offered power which they had not the knowledge to use. I remember talking to the secretary of one of the earliest Oxford tutorial classes in Littleborough, and his surprising me by saying that it was Plato who had made him join a tutorial class. I found on examination that he was referring—not to Plato—but to a passage in Xenophon's *Memorabilia* where Socrates shows a young Athenian ambitious for a political career that he does not know nearly enough for the task he proposes to undertake.

The purpose behind all that self-sacrifice and endeavour that formed the first tutorial classes was the hope of the general emancipation of the working classes. Now that task has been largely

UNITED NATIONS

New Publications:

The Price of Peace

53 *pages.* 1s. 9*d.* (2*s. including postage*)

The texts of the fourteen talks delivered recently by various United Nations delegates and by the Secretary-General over the United Nations Radio. The speakers discussed the current world situation and ways of reaching a peaceful settlement of international disputes.

Annual Report of the Secretary-General on the Work of the Organisation

207 *pages.* 15*s.* (15*s.* 9*d. including postage*)

In his annual report to the General Assembly, the Secretary-General reviews the work of the United Nations during the period from 1st July, 1950 to 30th June, 1951.

Yearbook on Human Rights for 1949

421 *pages. Clothbound,* 37*s.* 6*d.* (38*s.* 6*d. including postage*)

The fourth annual volume in this series, the current Yearbook contains extracts from national constitutions and statutes enacted in all parts of the world during 1949 and relating to human rights. In addition, the volume contains sections on the legal provisions relating to human rights in Trust and Non-Self-Governing Territories and on human rights provisions in international treaties and agreements. There is also a detailed review of the work of the United Nations in the field of human rights during 1949.

Measures for the Economic Development of Under-Developed Countries

108 *pages.* 5*s.* (5*s.* 4*d. including postage*)

Since its publication in May, 1951, this report has been the subject of world-wide comment and debate. It was prepared by five independent experts and contains a number of recommendations for national and international action for the development of economically under-developed areas.

United Nations Publications are available from:

H.M. STATIONERY OFFICE (P.O. Box 569, London, S.E.1)

or through any bookseller

accomplished—the coming into power of the Labour Government in 1945 was a sign that it has so been. The need for education on social and political questions remains, but it is on the whole a detailed need. I gather that perhaps the most successful work done in recent years has been the classes about trade union organization, and the special problems with which trade unionists are now confronted. I suppose that is principally the work of the W.E.T.U.C. From the university point of view it is extremely specialized. If a great deal of adult education is to be concerned with problems of that kind in helping the new governing class to face its particular problems, who ought to organize and administer it? The answer is not obvious. Mr. Raybould in this book concerns himself, as I have suggested, too exclusively with the universities' responsibility, but the responsibilities of the Workers' Educational Association are just as important. As Mr. Raybould hints somewhere, the Workers' Educational Association has not firmly made up its mind whether it is the working class body concerned with problems of working class education or whether it ought to have responsibility for all forms of adult education, at any rate all forms of non-vocational adult education. On the other hand there is some case for the revival of university extension of the old kind. We do very badly need some machinery through which the ever-increasing scientific discoveries of the universities may permeate the population as a whole. This is now largely left to the B.B.C.

There is a good deal to be said, in my opinion, for the view that a university extra-mural department should not be hampered by any kind of restrictions as to what is or is not properly university work, on the ground that what we most need is a fairly strong body, properly staffed, who can look at the task of adult education as a whole. It is a choice, I think, between that and some kind of organization of local education authorities. I don't think the university is ideally situated for the job, but till the proper authority is organized I think universities had better hold on to the comprehensive extra-mural department. Mr. Raybould seems to me far too much to base his arguments on what a university ought to do, and not on the possibilities of adult education. I wish he had begun in this latter way, and seen the necessity of some centre, one which could consider all the possibilities, and then, and not till then, ask what that centre ought to be.

LINDSAY OF BIRKER.

Annales Gandenses

edited by Hilda Johnstone. A short chronicle (1296-1310) written by a Franciscan friar of Ghent, who found in 1308 that he had a little time and parchment to spare. It provides the English reader with an intimate approach to the Flanders of the period not easily to be gained from contemporary writings on this side of the Channel.

THE FIFTH BOOK to appear in this series of literary and historical texts with translations, under the general editorship of V. H. Galbraith, Regius Professor of Modern History in the University of Oxford, and R. A. B. Mynors, Kennedy Professor of Latin in the University of Cambridge.

already published

THE MONASTIC CONSTITUTIONS OF LANFRANC *edited by Dom David Knowles*

THE LIFE OF AILRED OF RIEVAULX by Walter Daniel *edited by Sir Maurice Powicke*

DIALOGUS DE SCACCARIO by Richard Son of Nigel *edited by Charles Johnson*

THE CHRONICLE OF JOCELIN OF BRAKELOND *edited by H. E. Butler*

demy octavo *each* 15*s*

prospectus of the complete series from
Thomas Nelson & Sons Ltd.
Parkside Works, Edinburgh 9 *or*
3 *Henrietta Street W.C.*2

NELSON'S
MEDIEVAL
CLASSICS

THE IDEA AND PRACTICE OF GENERAL EDUCATION. (*University of Chicago Press. London, Cambridge University Press*, 26*s*.)

Every few years the educational world becomes preoccupied with a new idea, around which crystallizes a considerable amount of thought, writing and experiment. Thus we have had education for citizenship, for leisure, and for self-expression. Now a great deal of our attention is being devoted to " general education," a subject at once more practical and more comprehensive. The gap which many writers see between the demands which the modern world makes on the knowledge and the wisdom of the products of our educational systems and what those systems are in fact often providing has led to some very radical thought about the content of our school and university curricula.

The book under review is an account of the well-known experiments now being carried out at the College of the University of Chicago in this field. It contains an excellent introductory chapter on the " Problem of General Education " by one of the principal architects of the plan, C. H. Faust, a most interesting historical account of its evolution, and a series of chapters on the contribution of individual subjects. The result is a very valuable book; although it is primarily an account of one institution a good deal of light is thrown over the broad questions associated with the kind of education it describes, and it should be read by many of those concerned with sixth-forms and universities alike.

The essence of the Chicago experiment is to devote the years, normally four, between high school and true university studies entirely to a compulsory programme of general education. In those years the courses studied are Social Sciences (3 years), Humanities (3 years), Natural Sciences (3 years), English, Mathematics and foreign language (for one year each), and a final year comprising History, and a pretentiously named course in " Observation, Interpretation, and Integration." There has been a revolutionary break with the elective system, and a return to the idea that European education has never lost of there being a core of knowledge and interests that should be common to all educated men. The principal difference between the Chicago system and English practice is that whereas we allow specialist studies to begin earlier and assume a gradually increasing importance until at the university level they dominate the formal studies of the pupil, general education going on concurrently, the Chicago plan postpones specialist studies

BUTTERWORTH LEGAL PUBLICATIONS

STEPHEN'S COMMENTARIES ON THE LAWS OF ENGLAND

Twenty-first Edition in four volumes with 1951 *Supplement. Price* £6 15*s. per set. Supplement alone,* 5*s. Editor-in-Chief:* L. CRISPIN WARMINGTON, *Solicitor of the Supreme Court (Honours).*

This famous work, which is brought up to date each year by means of Supplements, is officially prescribed for the Law Society's Intermediate Examination, covering the whole of the syllabus excluding Trust Accounts and Book-keeping.

"Equipped with these four volumes the student and young practitioner alike will find the task of exploring the whole field of law considerably lightened at a price which is quite reasonable having regard to the wealth of information made available."—*The Law Times.*

JAMES'S INTRODUCTION TO ENGLISH LAW

Price 12*s.* 6*d., postage* 10*d. By* PHILIP S. JAMES, M.A., *of the Inner Temple, Barrister-at-Law, formerly Fellow of Exeter College, Oxford.*

"We are often asked by beginners to recommend an introductory book giving a general view of the law and here we have the ready answer. This is the ideal work for this purpose suitable alike to the university student, the candidate for legal professional examinations and, what is more important, to the intelligent layman. . . . The style is light and refreshing. . . . We hope our example will be followed in the recommendation of this book."—*Law Notes.*

CAIRNCROSS'S INTRODUCTION TO ECONOMICS

Second Edition, 1951. *Price* 18*s.* 6*d., by post* 8*d. extra. By* ALEC CAIRNCROSS, *Professor of Applied Economics at the University of Glasgow.*

Cairncross has long been one of the most widely used textbooks on Economics—its first Edition running into seven impressions—and with the appearance of a new Edition this famous work is brought into line with the latest developments in present-day economic thought.

The book is written simply, practically and consecutively, and is therefore easily understood, even by those approaching economics for the first time. There is no attempt to over-simplify, and no part of economic theory is left out merely on account of its complexity

Orders over £2 are despatched post free

BUTTERWORTH & CO. (Publishers) LTD.

BELL YARD · TEMPLE BAR · LONDON, W.C.2

altogether until the full university stage is reached—such an organization diminishes the danger that is implicit in the English method that the specialist interests will edge out from the curriculum the time available for general education. On the other hand it postpones the time of final professional qualification to a degree that it is difficult to defend either psychologically or economically, and it suffers from the more fundamental disadvantage that it appears to create too rigid a distinction between general and specialist education, and to make it more difficult for the specialist subjects to be, as they ideally should be, centres from which general education may develop.

In general much of the work covered in the College corresponds to that of our sixth forms, and it is interesting to notice that students are now admitted as young as sixteen and are excused parts of the course if the knowledge they have acquired in High School warrants it. It is very relevant, however, to our problems in England that the conditions of staffing are those of a university. In this country the grammar schools carry nearly the whole burden of formal general education. If they are to continue to do so and if this education is to be made as effective as it might be, there is a strong case for staffing ratios which would make a quite different approach possible in sixth forms. The advances which could be made in pre-university general education by having, say, something like a tutorial system in English, at present the preserve of a very few highly favoured schools, would be quite immense. The alternative, if we are to be revolutionary at all in our approach to general education is to face the far greater expense and dislocation involved in doing what is virtually sixth form work at the university level with university staffs paid at the appropriate salaries. Some such challenge to our thought on this subject seems to arise inevitably from the work at Chicago.

It is difficult to obtain from the book a very clear idea of the standards actually reached in the various subjects. Manifestly there is little foundation on which to build provided by the average American comprehensive high school. In view of this, and having regard for the wide range of intelligences for which provision must nominally be made, some of the courses and the reading lists which accompany them seem fantastically ambitious, and bear little relation to the sometimes puerile questions that are set upon them. To some extent these are, no doubt, faults which further experience will put right. To some extent, however, they arise from a genuine

CONSTABLE

Katherine Mansfield's
LETTERS
TO JOHN MIDDLETON MURRY
Edited by John Middleton Murry
Illustrated 45s.

George Santayana
DOMINATIONS AND POWERS
Reflections on Liberty, Society and Government
42s.

Reginald O. Kapp
MIND, LIFE AND BODY
12s. 6d.

Gordon W. Allport
THE INDIVIDUAL AND HIS RELIGION
A Psychological Interpretation
12s. 6d.

F. V. Smith
THE EXPLANATION OF HUMAN BEHAVIOUR
18s.

difference between American and English traditions. We are afraid of snippets of information spread over a very wide field, and the American syllabus will seem to many English teachers superficial if not pretentious. We have, too, a tradition that general education will spring partly from a wide private reading that need not be too rigidly prescribed. But underlying all the approaches to the problem of general education, whether English or American, is the necessity to secure the right teachers. Here more than in any field the quality of mind, the technique and the idealism of the teacher is really the determining factor. If these stand high they can transcend curricula; without them courses of study are of little avail. Inspired teaching has often made superficially narrow courses the vehicles for the broadest of educations. The account of the work at Chicago does stress this point, though not sufficiently. It is fundamental to the whole problem in the sense that in this country the products of those sixth forms adequately staffed as regards both number and quality of their teachers have nothing to fear by comparison with those of the most elaborate experiments in America or elsewhere. But we have no grounds for complacency in our approach to what are some of the most difficult educational problems. This book provides a source of ideas which may well be tried out when the happy day arrives when many more schools are provided with the staff and the freedom from the sillier university requirements which will enable them to experiment more boldly in the field of general education. It may, therefore, be most cordially recommended for the wide and careful study it deserves.

ERIC JAMES.

RADIO, TELEVISION AND SOCIETY. *By* CHARLES A. SIEPMANN. (Oxford University Press : New York. 1950. $4-75 cents.)

The virtues of broadcasting in the U.S.A. are seldom extolled in this country save by those whose concern it is to disrupt the B.B.C.'s monopoly. It is perhaps scarcely surprising that a similarly inadequate picture of British radio is current in America. Mr. Justin Miller, President of the National Association of Broadcasters, wrote of, we are told, all broadcasting outside America as " dull, lifeless dishwater . . . and great doses of propaganda ". Such descriptions are offered us as part of an argument in favour of or against one or other of the two systems. Mr. Siepmann's book affords an opportunity for a more independent study of their merits. The author

Ready 8 November

MAN AND MATTER

Essays—Scientific and Christian

by

F. Sherwood Taylor, M.A., B.SC., PH.D.

15s.

During the past ten years Dr. Sherwood Taylor, Director of the Science Museum, has often been called upon to read papers concerning various aspects of the relation of religion and science. Such of these as may provoke some thought and discussion are included in this volume.

THE NATURE OF NATURAL HISTORY

by

Marston Bates

16s.

In this remarkably readable book, Dr. Marston Bates, a distinguished biologist at present engaged at the Rockefeller Foundation on the study of the human population problem, sets out to explain to the intelligent layman the scientist's attitude towards the natural world rather than the natural world itself.

Just Out

THE SURFACE CHEMISTRY OF SOLIDS

by

S. J. Gregg, PH.D.

Illustrated—30s.

Dr. Gregg's aim in this book has been to give a survey of various branches of a subject which has developed very rapidly in the course of the last two or three decades.

CHAPMAN & HALL

has direct experience of both systems. He served for twelve years with the British Broadcasting Corporation in the pioneering period under Lord Reith. In 1937 a Rockefeller Foundation fellowship brought him to the United States to report on educational broadcasting. In 1945 he was consultant to the Federal Communications Commission and since 1946 he has been Professor of Education and Chairman of the Department of Communications in Education at New York University. His book is an admirable combination of description and comment. It may be used as a handbook of information and as a stimulant to serious consideration of the problems which the facts propose. These problems do not grow less as broadcasting becomes more established. The broadcasting monopoly in this country has never before been so searchingly examined as during the discussion provoked by the publication of the Broadcasting Committee ; across the Atlantic there are many voices raised to question whether the public interest is best served by a competitive commercial system.

Mr. Siepmann is nowhere more interesting than in his presentation of the efforts and frustrations of the F.C.C. This body provides the element of Government control intended to ensure that broadcasting in the U.S.A. is conducted in the public interest. " Radio," he remarks of the American scene, " . . . . contributes broadly an open invitation to escapism, dependence and credulity. This results not from a malign interest (there is no villain of the piece) but from a less than responsible exploitation of environmental factors affecting the habits and inclinations of twentieth-century man " (p. 266). Mr. Siepmann does not condemn the American system nor is he wholly in favour of our own. He is not so much concerned with comparisons but with pointing out the shortcomings here and in the U.S.A. In both countries, Mr. Siepmann argues, greater advantage should be taken of the opportunities. He wholeheartedly believes in broadcasting in the public interest and he believes in a measure of public control. In England he feels we are too restricted by the monopoly. In America the commercial interests are let off too lightly by the F.C.C. In Britain, Mr. Siepmann believes, the apex of our cultural pyramid—the Third Programme—is out of touch with present-day needs ; in America there is no pyramid at all. Though we may agree there is no " villain of the piece " there is a place for a hero and he is named. The tragedy is that he fails to be heroic and is too often the clown. The picture of

CLASSICAL AND ARCHÆOLOGICAL TOURS

PRELIMINARY ANNOUNCEMENT

CHALLIS & BENSON LTD. propose to operate during 1952, on approximately the dates shown, the following tours designed for archæological and classical teachers and students :—

1. *March* 25*th*–*April* 15*th*.—GREECE, by rail from London (via Brindisi and Piraeus) with 14 days in Greece. Limited to 20 members.

2. *April* 4*th*–22*nd*.—ITALY and SICILY, by road from Turin, with 8 days in Sicily. Limited to 22 members.

3. *August* 9*th*–19*th*.—ROMAN FRANCE, centred on Avignon, visiting by coach ARLES, NÎMES, ORANGE, VAISON-LA-ROMAINE, LES BAUX, SAINTES—MARIES, etc. Limited to 20 members.

4. *September* 1*st*–15*th*.—UMBRIA and TUSCANY, by road from Turin. Tour specially planned as an introduction to the Art Cities of Northern and Central Italy. Limited to 22 members.

5. *December*, 1952–*January*, 1953.—EGYPT : a three weeks' tour of unique interest, designed both for Egyptologists and general tourists. By air to Cairo.

6. *December*, 1952–*January*, 1953.—ROMAN SPAIN : a 17 days' tour of the greatest interest to Romanists and students of mediæval Spain. Limited to 20 members.

All tours will be accompanied by an experienced courier.

Accommodation throughout in good second-class hotels.

Further information and detailed itineraries can be obtained from :—

Challis & Benson Ltd.

(University Travel Dept.)

8, South Molton Street, LONDON, W.1

Telephone : MAYfair 6337 (7 lines)

228-37

the seven men of the F.C.C. each with seven years of office is too much like that of the seven maids with seven mops. The vast golden sands of commercial radio continue unabated. Both the strength and weakness of the American system is seen to be the huge proliferation of radio stations (there are 3,039 licensed radio stations in the U.S.A.) knit together by strong commercial companies. The regulating body is not robust enough and not vigorously enough supported to enforce the principles of public interest which we are led to believe would otherwise apply.

But Mr. Siepmann in his book deals with much else besides an examination of weaknesses and strengths in the rival systems. He discusses some of the fundamental problems which are inherent in any full development of broadcasting. Among these are the problems of propaganda and free speech. He points out the vast increase in liability to propaganda and the difficulty, once an audience is conditioned to propaganda, of bracing the mind to make its own search for truth. " I think all the soap ads. are good " ; one listener reveals in her comment, " I used to buy a different kind every day when I could get it." The results of a " Why I like Frank Sinatra Contest " are worth pondering. " I think you are the most average family in the United States," wrote one admirer to ' The Voice ' ; " and therein lies your greatness." Sinatra's campaigns for inter-racial tolerance were enthusiastically supported and the fact that he backed President Roosevelt seemed good enough reason for his admirers to sport campaign buttons marked " Frankie's for F.D.R. and so are we ". There must be many in the U.S.A. to shed a tear with the F.C.C. and the Carpenter.

" If this were only cleared away,
They said, it *would* be grand ! "

Mr. Siepmann warns his readers of another danger closely bound up with the evils of propaganda. If free speech is weakened, propaganda waits like a mayor of the palace to take its place. Free speech is not an easily acquired freedom and not easily maintained. " Abuse of freedom leads to freedom's forfeiture." One of the most discussed rulings of the F.C.C. is the " Mayflower " decision which in its revised form (June 1949) decrees the necessity for balanced controversy ; radio licencees may editorialize so long as " the other side " of questions thus treated is also given. The Commission's right to issue the Mayflower decision was challenged by the radio industry as a breach of the First Amendment to the

Mr. Micawber on Happiness

"Annual income twenty pounds, annual expenditure nineteen nineteen six, result happiness. Annual income twenty pounds, annual expenditure twenty ought six, result misery".

'DAVID COPPERFIELD' *by Charles Dickens*

Mr. Micawber's observation is as true today as it was when Charles Dickens wrote 'David Copperfield'. There is no surer way of keeping expenditure within income than by opening an account with the Midland Bank. For it is part of the Bank's service to keep accounts for its customers and to supply statements which form accurate records of their payments and receipts; whilst the cheque book, apart from making payment of money simpler and safer, provides an up-to-the-minute record of expenditure. The means for putting into practice Mr. Micawber's formula for happiness are all to be found in an account with the Midland Bank.

MIDLAND BANK LIMITED

(7823) G

Constitution. This condition of deadlock seems to be typical of the relations between the F.C.C. and the radio industry. Mr. Siepmann illustrates the defiance of the Mayflower decision by his comment on the treatment of the communist issue is as follows :— " Any stations that gave a Communist air time would, more than likely, lose both sponsors and listeners and go out of business."

The years ahead will no doubt bring adjustments of the American system to the needs of a community which feels a deepening sense of responsibility ; and much that strikes us here in Britain as harmful or confused may be seen as part of an evolutionary process. If these adjustments are to be made wisely the first need is for an adequate discussion of the problem. Very little so far has been published which contributes to this discussion. Mr. Siepmann's book should do much to sharpen the wits of those who wish to see improvements made in the U.S.A. and elsewhere. His chapter on education provides the key to his own thinking on this question. Mr. Siepmann advocates the development of a national network " supplementing commercial radio, wholly devoted to education, financed out of federal funds, but directed independently of government by a board of responsible citizens ". This is a practical suggestion and no doubt more will be heard of it. The physical facilities are available in the band of F.M. frequencies reserved by the F.C.C. for education. At the end of 1949, no less than 103 educational stations already existed. Their effectiveness, it seems, is weakened by lack of funds and of well trained personnel. It may well be that efforts towards combination would overcome some of these problems. Mr. Siepmann used the word " education " in a wide sense. "A great need exists," he writes, " for education in depth, to save us from bewilderment and mental vertigo or from a too facile reaction to the multiple impressions that radio and other media foist on us. Facts and ideas must be ordered and related. We need some grasp of underlying principles . . . radio can do much to meet this need." To the extent that thinking in the U.S.A. moves on these lines, there should be a field for active co-operation between Americans and those in Britain who have a similar concern. The effect of Mr. Siepmann's book should be to arouse serious interest in an important subject and to stimulate energies to solve the problems connected with it not only within national boundaries but among all those who feel a growing solidarity in the attempt to establish and defend a common culture.

HARMAN GRISEWOOD.

How wide is your window?

Each of us has a window with a view of the contemporary scene. How wide that window is, how much of the scene it reveals, depend, in these days of the broadcast and printed word, on what the observer hears and what he reads. Chiefly, no matter how loud his neighbour's radio, on what he reads.

Let the Manchester Guardian Weekly widen your window. Here are the happenings of the week selected with an adult appreciation of what makes news. Here too is comment that follows an honoured tradition of editorial freedom. And here are intelligent and readable reviews of books, music, art and the theatre. Good panes for the mind's eye to see through.

The

MANCHESTER GUARDIAN WEEKLY

Every Thursday, price 3d. 18s. 6d. *a year posted to any part of the world*

Order from your newsagent—he can supply regularly

THE PLACE OF REASON IN ETHICS. *By* STEPHEN EDELSTON TOULMIN. (Cambridge University Press, 16*s*.)

In view of the prevailing tendency among philosophers to follow the lead given by psychologists and sociologists in discounting the role of reason in moral action, in minimizing responsibility for action, and in emphasizing the measure in which our moral attitudes and beliefs are shaped by social influences of one kind or another, it is refreshing to find a writer on ethics bold enough to assert that we do sometimes make decisions, do feel that some were wise, some not so wise, and some foolish, and do in fact acknowledge responsibility as much for those decisions which we regret as for those in which we feel justified. Mr. Toulmin is to be congratulated on raising once again such questions as: What justifies a moral decision? What constitutes a good decision? Is a bad decision due in any way to faulty reasoning, and, if so, can this be exhibited in such a way as to persuade another of moral error? What sort of reasoning lies behind our moral decisions, and is this reasoning subject to any criterion?

He does not claim to have exhausted all that might be asked about the role of reason in moral action, but he does contend that these questions fall legitimately within the sphere of moral philosophy, and are at least as important as the questions: What is goodness? What makes an action right? It is, indeed, part of Mr. Toulmin's thesis that exclusive concern with the meaning of "right" and "good" has resulted only in the discovery that in practice these words are of uncertain range and application, and have no "precise" meaning. This, he thinks, has not merely lent support to the doctrine of ethical relativity, it has encouraged the view that moral judgements have no objective reference (save in so far as they refer to facts capable of empirical verification), and serve merely to evince emotional attitudes unamenable to reason and explicable only in terms of the emotive use of language.

With the finer points of the emotive theory of ethics Mr. Toulmin is less concerned than he is with what he takes to be its outcome, and he is content to dismiss it on the ground that in coming to a moral decision we not only refer to facts and display an emotional attitude of some kind, we *weigh* alternative lines of conduct, *deliberately* choose between them, and thus employ a process of reasoning of some kind.

In much the same fashion he dismisses what he calls The Objective

THE SOCIAL HISTORY OF ART

ARNOLD HAUSER

There are 145 plates and 1,000 pages. Many people are aware of the high and increasing cost of such books, and the publishers have decided to issue these two volumes at the low price of two guineas as an experiment, believing that *The Social History of Art* will receive a wide sale and become a standard work.

Royal 8vo. In two volumes. £2 2*s. net the set.*

THE WEST EUROPEAN CITY

ROBERT E. DICKINSON

The author studies the forms of dwelling place among west European cities north of the Alps and Pyrenees, interpreting them in the light of their functions and historical development.

With many illustrations, maps, and charts. In the International Library of Sociology. £2 2*s. net*

ARISTOTLE'S DE ANIMA

WITH THE COMMENTARY OF ST. THOMAS AQUINAS

Translated by
KENELM FOSTER, O.P., M.A., and SILVESTER HUMPHRIES, O.P., M.A.

This translation of the De Anima, and of the Thomist commentary thereon, provides a sample of the way the greatest mind of the Middle Ages read and expounded Aristotle.

£2 2*s. net*

THE BRITISH JOURNAL OF SOCIOLOGY

Edited by M. GINSBERG, D. V. GLASS & T. H. MARSHALL

Volume II, Number 4 December, 1951

CONTENTS

J. H. SMITH & T. E. CHESTER Power in Nationalised Industries.

E. GOFFMAN. Symbols of Class Status.

J. GOULD. Komsomol and Hitler Jugend.

C. SOFER and R. ROSS. Some Characteristics of an East African European Population.

R. PIERIS. Bilingualism and Cultural Marginality.

H. HIMMELWEIT and A. SUMMERFIELD. Student Selection, Part III.

F. MARTIN. Human Relations in Industry : A Discussion.

BOOK REVIEWS.

ROUTLEDGE AND KEGAN PAUL

Approach—the view that since ethical disagreements imply an objective standard, goodness must be objective in the sense of being independent of the individual valuer; and The Subjective Approach—the view that since men differ as much in their moral judgements as they do in aesthetic appreciation, goodness must be subjective in the same way in which artistic taste is subjective. These, he says, in no way help us to explain the reasoning behind moral decision.

But having thus ruled out what he is pleased to call the " traditional " approaches to this question, Mr. Toulmin should have been at pains to provide a more satisfactory view of goodness, for, lacking some such criterion as the traditional theories sought to provide, it is bound to be hard to distinguish a moral decision from a pragmatic decision. Instead of this Mr. Toulmin proceeds to discuss "Reasoning and its Uses " in philosophy, in science, and in everyday life, and though there is much in the section headed " Logic and Life " that is both interesting and instructive, it is hard to see what relevance such topics as The Correspondence Theory of Truth, The Scope of Scientific Explanation, and The Limits of Physical Reality, have to the main problem in hand. One cannot but feel that admirable though his description of the nature and limitations of scientific inquiry may be, it is something of a digression, and a misleading one too. For when finally he comes to examine " The Logic of Moral Reasoning " it becomes apparent that the sort of reasoning he contemplates is the kind a scientist might consider appropriate to the practical problems of life, but the kind Kant stigmatized as " speculative reason employed for a practical purpose". The consequence is that in order to distinguish a good decision from a valid inference Mr. Toulmin is obliged to borrow a moral criterion from " accepted social practices " and from the " estimated consequences of an action". " If you ask me, ' Which of these two courses of action ought I to choose ? ', we can see which of the accepted social practices are relevant and, if no ' matter of principle ' is involved, estimate (as best we can) the effects which either course of action will have on the other members of the community." It is, however, the " matter of principle " that is all-important, and if these are the only principles to be considered it is hard to see how a good decision could differ from a worldly wise decision.

A. E. TEALE.

CÉSAR FRANCK

LÉON VALLAS

TRANSLATED BY HUBERT FOSS. While this work may not be available in France for another two years it is a welcome publication here with its critical appreciation of the life and works of the famous French composer. *Illustrated*, 15/- *net.*

PENINSULAR CAVALRY GENERAL

Edited by T. H. McGUFFIE

The personal correspondence of General Long, one of the most warm and interesting personalities of the Peninsular Wars. The Editor has written a long biographical passage describing the General's background and home life.

With half-tone frontispiece Portrait. 15/- *net.*

GEORGE G. HARRAP & CO. LTD

Just Out

THE GODS OF THE GREEKS

C. Kerényi

Here is the first complete, authentic and authoritative Greek Mythology. Professor Kerényi has drawn exclusively upon primary sources, yet his rendering is contemporary in spirit and modern in treatment. With 52 illustrations in gravure and line, classified index and detailed source references. 18s.

Recently Published

REFLECTIONS ON THE WORLD TODAY

Paul Valéry

" . . . the best book I have read on modern politics. . . . a book of utmost immediacy." Stephen Spender in the *Spectator* 15s.

244 High Holborn THAMES AND HUDSON London W·C·1

BOUND VOLUMES

A few bound and indexed copies of Volume IV and Volume V of the *Universities Quarterly* will be available from the publisher in January.

H. K. LEWIS'S PUBLICATIONS

MEDICAL EDUCATION

By **FFRANGCON ROBERTS**, M.A., M.D., Hon. Physician in Charge Douty X-Ray Clinic, Addenbrook's Hospital, Cambridge, Examiner in Radiology, University of Cambridge.
Demy 8vo. 12s. 6d. net : postage 7d.

A HISTORY OF BIOLOGY
A General Introduction to the study of Living Things

By **CHARLES SINGER**, M.A., M.D., F.R.C.P., Emeritus Professor of History of Medicine, University of London, etc. *Revised Edition.*
Demy 8vo. 35s. net : postage 10d.

AEQUANIMITAS : With other addresses to Medical Students, Nurses and Practitioners of Medicine

By Sir Wm. **OSLER**, Bt., M.D., F.R.S. Biographical Note by Sir **WALTER LANGDON-BROWN**, M.D. (Cantab.), F.R.C.P. With a Portrait. Reprinted from the *Third Edition.*
Demy 8vo. 12s. 6d. net : postage 7d.

RESEARCH IN MEDICINE AND OTHER ADDRESSES

By Sir **THOMAS LEWIS**, F.R.S., C.B.E., M.D., F.R.C.P., late Physician, University College Hospital. With Three additional lectures. Demy 8vo. *Second Edition.*
5s. net : postage 2d.

LONDON: H. K. LEWIS & Co., Ltd., 136 GOWER STREET, W.C.1
Telephone:—EUSTON 4282 (7 lines)

Printed by Harrison & Sons, Ltd., London, Hayes (Middx.), and High Wycombe.

ASSOCIATION FOR EDUCATION IN CITIZENSHIP

3 Elms Mews, London, W.2. (Tel : AMB 4629)

OBJECTS

To advance training in citizenship, by which is meant training in the moral qualities necessary for the citizens of a democracy, the encouragement of clear thinking in everyday affairs and the acquisition of a knowledge of the modern world.

President: The Rt. Hon. Sir Arthur Salter, G.B.E., K.C.B., M.P.

Vice-Presidents: The Rt. Hon. C. R. Attlee, O.M., C.H., M.P.
Sir Ernest Barker, Litt.D., D.Lit., LL.D.
The Rt. Hon. Anthony Eden, M.C., M.P.
The Rt. Hon. the Earl of Halifax, K.G., G.C.S.I., G.C.I.E., T.D.
Sir Richard Livingstone, Hon. D.Lit., Hon. LL.D.
Dr. Gilbert Murray, O.M., D.C.L., LL.D., D.Lit.
The Rt. Hon. the Viscount Samuel, G.C.B., G.B.E.
Lord Simon of Wythenshawe, Hon. LL.D.
P. H. B. Lyon, M.C., M.A.

Chairman: Gordon Barry, B.Sc.

Honorary Secretary: M. Alderton Pink, M.A.

Honorary Treasurer: Victor Cohen, B.A.

Secretary: Miss V. T. Blanchfield.

METHODS

1. To collect information in regard to training in citizenship.
2. To publish books, journals and pamphlets on education for citizenship.
3. To arrange and approach appropriate educational bodies.
4. To give information and to provide speakers on education for citizenship.

No axe to grind...

THE LISTENER has no axe to grind. Its editorial contents reflect the impartial spirit of British broadcasting. Broadcast talks published weekly in *The Listener* are chosen for a wide and discriminating public; their authors are informed observers whose opinions are discussed by intelligent men and women everywhere.

Regular features which you will also appreciate in *The Listener* include foreign commentaries on current affairs, criticisms of recent radio and television broadcasts, book reviews, notes on the week's music, and correspondence columns that are not seldom distinguished as much by their controversy as by their humanism, scholarship and wit.

The Listener

A BBC Publication

Every Thursday **Threepence**